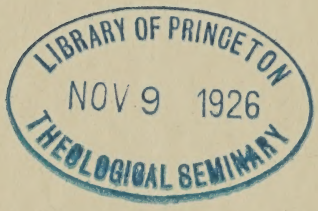

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The unity of faith and
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THE UNITY OF FAITH AND KNOWLEDGE

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THE UNITY OF FAITH AND KNOWLEDGE

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JOHN A. W. HAAS
PRESIDENT OF MUHLENBERG COLLEGE

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PREFACE

It has been found a serviceable and necessary plan to provide a coördinating course for college students. The best place for it seems to be toward the end of undergraduate life, in the senior year.

After experimenting for some years the lectures contained in this volume were prepared as a summary for the above use in a college which frankly avows its Christian position in the classroom. Their purpose is to lead both classical and scientific students to a discussion of theistic personalism as the solution of the problem of unifying knowledge and faith. It is possible to accept the best results of modern learning without becoming agnostic. The claim of this treatise is that the personalistic philosophy of Christian theism furnishes ways and means of retaining the faith, and yet remaining open to every true advance of thought.

The thoughtful general reader may find in this book some suggetsions to guide him in his search for a balanced position, one in which he does not have to espouse ignorance to remain religious, nor reject religion and become skeptical to maintain scientific truth and freedom.

The summaries at the end of each chapter give the theistic bearing of what has been discussed in

that particular chapter. The plan followed is to deal by way of introduction with some fundamental problems of thought, and then present the philosophic aspect of physics, chemistry, geology, biology, psychology, sociology, history, philology, pedagogy, logic, ethics, and aesthetics. The final chapter discusses the synthetic unity of religion. At the end a full bibliography is furnished for the several chapters.

May this book be of some small service in the maintenance of the necessary unity of faith and knowledge!

JOHN A. W. HAAS.

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THE UNITY OF FAITH AND KNOWLEDGE

PROBLEMS OF PHILOSOPHY

INTRODUCTION

THERE are many people who have a secret or outspoken aversion to philosophy. They look upon it as a medley of strange speculations sponsored by men who are fond of castles in the air. Where there is no direct aversion the opinion exists even among the more intelligent that today philosophy is useless. In the past, when it stimulated the first investigations into nature, it was useful. But now that the sciences have been born they are supposed to answer the problems which nature suggests and the questions which it puts to us. Philosophy is held to be only a forerunner of accurate knowledge and given a place in the same category with astrology and alchemy. Are these ideas about philosophy correct? Are philosophers queer teachers of past conjectures, revampers of exploded speculations? Is there any legitimate place for them in a modern scheme of knowledge, or do they only rob the soil where real progressive and creative thought blossoms?

The kind of man who has renamed philosophy "foolosophy," and who compares it to a blind man trying to find a black cat in a dark room when there

is no cat there, forgets that he is a philosopher himself to the extent of subscribing to some explanation of nature, of the world, and of life. He has picked up some of his notions and has inherited others through society. These he subjects to certain naive reflections of a utilitarian kind. Thus he has acquired a philosophy and does not know it, for it cannot be denied that he possesses some world-view of nature, men, things, and God. This led Plato to say that, whether a man wanted a philosophy or not, he had a philosophy. In distinction from this philosophy of the common man, which is made up largely of contradictions and old, outworn conceptions, real philosophy strives with great care to arrive at a just and consistent view of the universe, in the light of the best results of modern knowledge. It seeks humbly to find the first principles of being and to solve the riddle of the universe.

The scientific men who sometimes speak slightingly of philosophy, which is the mother of their sciences, overlook the fact that the history of human thinking shows that, long before modern science began, great men of thought in Greece made wonderful forecasts of scientific conceptions which have since gradually been established and become the common property of intelligent men. Democritus gave the world the speculation that atoms constituted the basis of nature long before Dalton introduced the atom into modern chemistry. Similarly,

narrow specialists of science decry Aristotle, whom they have never studied, or they would know that he was the first great gatherer of scientific facts and observations in our Western world. Osborn reminds us that evolution as an idea began in ancient Greece, and that Darwin only gave it a naturalistic interpretation in the field of biology. Scientists themselves always speculate on the data which they have collected or obtained. Consequently they always frame a philosophy and often one which attempts to explain the whole universe from the point of view of their own single science. From a part of nature which they have not proven to be clearly indicative or representative of the whole, they attempt to solve the significance of the universe in terms of mechanics, chemistry, or biology.

What is needed today is a clearer distinction between fact and inference than generally prevails. Facts are immediate data gathered through observation or arrived at by experiment. But often men approach this work of observation and experiment with a prior notion which they desire to see established. Are observation and experiment likely to be completely impartial in such cases? On the other hand, will they see what is to be seen and extract the right data unless they put definite questions to the existences in the universe? We may and should be impartial in our reports, but in science we are always seeking after the proof or disproof of some

speculation that we are putting to the test. It is possible, like Darwin, to engage in what is known as fool's experiments, i.e. trying out all sorts of possibilities rather than working at a definite problem; but even in this case we are only ringing the changes on some question to which we have a distantly possible or probable answer in mind. But a greater source of confused thinking, of which many scientific treatises are full, is the failure to separate speculation and inference from the datum and the fact.

Much science is so presented that the hypothesis is smuggled in, as it were, with the observation and experiment, and therefore the impression left on the average mind is that all is fact and nothing inference. Many of the school books on science do not follow the procedure of the careful scientist, but so intermingle fact and speculation that everything is taken by the student indiscriminately as fact. In this manner young high school pupils are often taught biology, and they accept and absorb as established the theories of one group of scientists in explanation of the facts. We must seek in our American education to use better logic and more enlightened pedagogy. To the young we should impart only the rudiments of the science, and then in the late years of college, when the mind is riper, we may introduce them to the various speculative hypotheses. Our students need a real training in

the logic of distinguishing (a) the first inferences from the data presented, then (b) the probable explanation proffered in the hypothesis, which is no mere guess, and finally (c) the fuller agreement and consilience of hypotheses that knit them into a highly probable theory. These successive steps of a sound logic are constantly overlooked and need to be most strongly emphasized. True enough, we cannot stop with facts and rest content with mere data. Facts and data call for interpretation and explanation, but we must differentiate between what we think we find as given and what the mind adds to satisfy its own urgings.

After we definitely decide to make an honest attempt to discriminate between fact and inference, we are brought face to face with the question, how shall we proceed in our quest? The problem of method is never unimportant, but always demands serious consideration in any branch of knowledge. Of course method does not produce the body of content methodized, but it is necessary for the most effective presentation of that body of content. The reason that there is so much uncertainty and confusion in our modern thinking, we repeat, is that we frequently fail to put the minds of our students through a daily logic drill. We must have the what, the substance; but the what raises the question of the how; the mass of confused data demands order and classification. In fact, so valuable is

method in the estimation of modern pedagogy that the most thorough courses of training in how to present the various subjects of the curriculum are felt to be fundamentally necessary for teachers. If this instruction is superimposed upon thorough knowledge of the content of any subject, excellent results will follow. But that is the one danger to be avoided, namely, the supposition that excellence of method can compensate for the absence of definite knowledge of subject matter. We must steer clear of both the Scylla of mere information and the Charybdis of proficiency in technique. Our proper policy must be to watch both in order to keep on the right course.

How shall we deal with this question of method in the study of philosophy? There have been two outstanding ways, in the history of thought, of approaching the problems of philosophy. The one might be called the dogmatic or axiomatic; the other the argumentative or discussive, for it uses data gathered inductively. A case of the former is the modern philosopher Descartes, who after a long night of doubt and darkness finally reached certainty in the axiom; *Cogito ergo sum.* This acquired for him all the force of a central dogma from which he proceeded to derive his whole scheme of thought. The most marked instance of the use of the axiomatic method, however, is Spinoza, who laid out his system in strict mathematical form—

definitions, axioms, propositions, and corollaries. It may be of interest to quote the beginning of Spinoza's *Ethics* to show his method:

PART I

CONCERNING GOD

Definitions

I. By that which is self-caused, I mean that of which the essence involves existence, or that of which the nature is only conceivable as existent.

II. A thing is called finite after its kind when it can be limited by another thing of the same nature; for instance, a body is called finite because we always conceive another greater body. So, also, a thought is limited by another thought, but a body is not limited by thought, nor a thought by body.

III. By substance, I mean that which is in itself, and is conceived through itself; in other words, that of which a conception can be formed independently of any other conception.

IV. By attribute, I mean that which the intellect perceives as constituting the essence of substance.

V. By mode, I mean the modifications of

> substance, or that which exists in, and is conceived through, something other than itself.
>
> VI. By God, I mean a being absolutely infinite, that is, a substance consisting in infinite attributes of which each expresses eternal and infinite essentiality.

Leibniz also belongs to the rationalistic group, for he too argued from his idea of the monad in these same deductive, mathematical ways. A study of the manner of presentation of their views by these three philosophers gives us a clear insight into the dogmatic method. It is also the one employed in the early Greek nature philosophers, who trace all the forms of existence from some element of nature; in the Eleatics, who start out from bare being; in Democritus, the first atomist, and in many others. Sooner or later a student will raise the question, is this method most effective and does it produce the best results? There will be real profit in its use in the proportion that its fundamental axiom is really adequate and there is actual logical sequence and connection in the course of the demonstration. But often cogency in the proof is only maintained by the exclusion of some unruly facts or the whole procedure becomes too abstract to do justice to the fulness of reality in the existences and the life of the Universe.

More success is possible where the axiomatic form

gives way to doubt, skepticism and criticism. A constructive critical attitude is wiser. The philosophy of Kant is the best example of the results obtainable by the modification of the mere deductive, axiomatic method. Nevertheless, after the doubt of the old has been expressed, the doubter is apt to fall into a new dogmatism even if it takes on an agnostic form. Thus when Kant turns dogmatic himself, his new categories prove too narrow and exclusive and almost mechanically determinative of his system. Modern positivism is also dogmatic in selecting what it considers worthy of acceptance and in its rejection of religion and philosophy. Agnosticism as found, e.g. in Spencer's *First Principles,* seems very humble, but in the end it feels qualified to perform the very ambitious task of drawing a line between the Knowable and Unknowable, and then it proceeds of its own dogmatically to construct a philosophic system. His acceptance of the Unknowable as existent is the strangest feature of Spencer's thinking. How can we know that the Unknowable exists after contradictions shown in the Absolute and the Infinite have ruled them out of the reckoning. Despite its apparently humble attitude, agnosticism as a method is bound to fall into the dogmatism of skepticism. In fact, the skeptic is the honest, consistent doubter, for he clearly exposes the dogmatism of his doubt by being so sure. Behind the uncertainty of agnos-

ticism hides this same dogmatic attitude of doubt. It ought to be clear in our minds that all doubters, both the half-way and the complete, are dogmatic as to the finality of doubt, and their method is in nowise superior to that of the straight, outspoken dogmatist of any other type. Thus there is still dogmatism sometimes where it is least claimed.

The second great method in use in philosophy is the argumentative or discussive which found its first expression in the Dialogues of Plato. It is true that Plato arrives at very definite convictions about the reality of the ideas and ideals, but the form employed by him to reach them is that of debate and discussion. The poetic temper of Plato accounts in part for the literary form of the dialogue. But Plato also finds it possible, by the use of this freer form of discussion, to value and meet objections to his position. He grows richer and fuller in the process, and is the better for his unconcern over mathematical consistency. His doctrine of ideas takes on a wider sweep and vigor in the later Dialogues. Occasionally other philosophers have used the dialogue form, for example, Berkeley, in the Dialogues between Hylas and Philonous. But it seems as if most thinkers fear to use this method because of Plato's superiority in its practice. Nevertheless, the real way of arriving at philosophic truth is this way of the collection of data and the discussion of their import. The great aristocrat of

thought and government, Plato, is actually the founder of the democratic form of seeking truth through debate and discussion, and not through dogma or dogmatic lecture. Our own American practice follows too largely the way of the dogmatic lecture, although it is foreign to our whole genius and attitude. It is possible, even though we do not use the dialogue form, so to present our positions in philosophy as to make them a challenge to discussion rather than so many edicts to be accepted. It is this method that we aim to follow in the following chapters. The intention is to provoke thought and to put the critical and searching mind at work even in the case of the most positive statements. The plan adopted will be to report accepted facts in the field in question and then to draw inferences. Are the facts facts, and are the inferences justified are questions which the student is constantly expected to ask. They appear true and sound to the author. Has he been strictly judicial and do the trends that he approves point the way to a philosophy acceptable to me? This is the test that the student must apply.

Another problem of method that cannot be passed by without a word is the question whether it is best to try to work out a system of thought through analysis or through synthesis. Analysis is a necessity. It is not mere curiosity that leads us to divide and subdivide things and ideas. From the

early questionings and explorations of the child up into the riper years, anaylsis is a tool in constant use. But are we through when we are through analyzing, or ought we to analyze in order to make all the better job of the work of reconstruction? Surely synthesis is the complement and fulfilment of analysis. Mere analytical thought is dissection, but the analysis that paves the way to a richer synthesis is creative thought. Apply this now to philosophy, and we will decide that the better way will be to carry the work of analysis down to the last subdivision and then to address ourselves to the complementary task of synthesis and do the best piece of intellectual reconstruction we know how, using the materials supplied by analysis to replace our former world with one much more intelligible to us.

At its inception philosophy was an effort to reduce the seeming complexity of the universe to the simple terms of a single material principle. It was all very natural that the mind should seek this simplification first in the world without, in water, air, fire, etc. Any single, all-pervading substance apparently would satisfy that inextinguishable thirst of the mind for unity which produces monism. But as thinking continued, could philosophers keep on assuming that the simplest form of matter would furnish an adequate solution of their main problem? A great advance was made when atomism was hit

upon as the way in which a material analysis might give us the clue to the riddle of the universe. But now that the atom, even in its latest composite form, has been tried out, is the fact of the continuity of the atom or electron all the way up from inanimate matter into living forms self-explanatory?

Is the living cell nothing more than the sum of the physical and chemical characteristics of its constituent parts? It is still an unsolved problem whether the chemistry of the brain constitutes the total causative explanation of the physiology of the brain. The facts of mind, of personality, of society, of the good, the true, the beautiful must all be included in any full philosophy. Is the analytic reduction of the universe to matter or energy, even in the more concrete forms, sufficient, or does that explanation of its totality pay too much regard to a part only of the universe? The analytic materialistic solution of the problem raised by the universe in its totality is only possible when we neglect or absurdly undervalue many higher facts in life. Valuable as it is in special sciences that treat definite parts of the whole world, it is too simple to serve as a satisfactory explanation of a rich, full, complex universe. This analysis of matter which thinking has performed in order to unravel the tangled skeins of evistence has failed.

A more promising avenue of approach seems to

be through the analysis of the mind. But mind can never be reduced to an indivisible ultimate; it is always a composite. There is no one phenomenon of mind which can explain all of mind. No analysis of mind either through psychology or epistemology leads us to any possible primary and simple mental element adequate for the explanation of the universe. But can we not then take mind as the irreducible foundation on which to raise the superstructure of philosophy? This method has been tried again and again, but it, too, has never proved fully satisfactory, either in its universalistic or individualistic form. There is in us all an irrepressible set or disposition toward realism, responsible for a suspicion which will not down that the idealist, the philosopher of mind, has juggled away matter and produced an unreal world. Perhaps this feeling cannot be logically vindicated, and yet it testifies to the fact that the danger is real that our thinking will create an illusory world. Idealism is not capable, by a wholesale absorption of concrete particulars into a colorless abstract whole, of giving us the full synthetic philosophy. Mind in its abstract form is out of touch with the kind of reality that furnishes the key to an explanation of the world as a whole. We need a more comprehensive synthesis for that than mind as such can supply. That world-view may start from mind, but cannot end with it.

Keeping in mind that our effort, as far as possible, shall be to discriminate between fact and inference, to proceed not dogmatically but suggestively by argument and discussion to build up a world-view through successive chapters, it must be left to the reader to decide at the close how far our claims have been sustained.

PART I

THE PROBLEMS OF NATURE

CHAPTER I

The Primary Problems

IN any attempt to prepare a systematic treatise, whether of a separate science or of a philosophy, certain primary and underlying problems confront us from the beginning. Certain questions and principles continually challenge us. Can we justly begin and carry on any presentation of a department of knowledge that will turn out satisfactory without dealing with them first? Even though our approach is to be of an argumentative rather than a dogmatic nature, and one that gives modern scientific method full recognition, yet we must not forget that all scientific method rests on certain fundamental suppositions that it must itself justify, such as the uniformity of nature, or the continuity of causes, or the unity of the universe. And thus before we can properly begin to ascend from the analysis of matter in physics and chemistry to life in biology and to mind in psychology, and so on upward, we must pause to determine what are the primary problems in a synthetic philosophy. What are the ideas and conceptions at the bottom which we are using or presupposing all the time as we gather facts and make inferences? For our purposes

here, the outstanding and necessary primary preliminary questions are the following: space and time, quantity, and cause.

SPACE AND TIME

Space and time seem to be immediate facts of our human experience. They appear to be given directly and to need no analysis. But that naive judgment of common sense ceases to be acceptable when we go any distance in the study of the development of the mind. When the child begins to find the world about it, his first sense of space comes through touch—the feel of his own body in his exploration of it and the exercises in grabbing undertaken by him in search of objects to put in his mouth. And it takes some time for him to construct the third dimension. For example, an orange close by and a light farther away will seem equidistant, but the child finds there is a difference when he grasps at the more distant object as though it might be reached like the one close at hand. The philosopher Berkeley made much of the experiments of Cheselden with a man born blind. That blind man came to see and when he began to see he stretched forth his hand for the distant object like a child and had no sense of depth in space.[1] In the New Testament we read the story of another blind man who, when he received sight, said that he saw

[1] Berkeley, *Essay Toward a New Theory of Vision.*

men as trees walking.[2] He thus testified that he had no immediate visual perception of the third dimension.

The facts of perception in regard to space are therefore for us certain experiences out of which we mentally construct the depth of space. The early mistakes in the reporter work of sensation are corrected by the assistance received from such sources as focusing and straining the eyes, adjustment of the ciliary muscle, the different ways in which objects near at hand are seen by each eye, qualities of image, haze, rate of movement, and superposition.[3] Consequently, the depth to space which we first think to be a fact immediately given is a piece of psychological construction resting on a combination of sensations of sight and touch. If we are to stick to our experience we must therefore accept for one of our primary principles space as reported on by sensation and as those reports are acted on by our minds. Kant endeavored to give this subjective character of space a logical basis by construing it to be a necessary form without which the mind could receive but not place objects and make a world of them as given in sensations. He argued that we do not put distances together and make space out of them, but that we map out distances within space already in our mental possession as a unity. All

[2] Mark viii:24.
[3] Pillsbury, *Essentials of Psychology*, p. 166 ff.

objects, he contended, could be thought away, but space, empty as it might then be, could not be eliminated. Through space as a necessary form contributed by our mind, geometry could be adequately explained. Kant also held that space was not a discursive concept but a pure intuition. The infinity of space demanded its acceptance by us as a way of thought prior to its confirmation through sense experience. The great French philosopher Bergson gives space a secondary place and his claim that it is instrumental to matter is also indicative of its intellectual character. Its externality seems a by-product of the intellect dealing with the expenditures of the vital impulse in the work of worming its way into matter.

After we have thus evaluated space as fairly as possible from the angle of our minds, there remains the other hemisphere of the question, whether space really does not have an actual external existence which is not created by, but only comes to the light of recognition in the human mind. The tendency in philosophy today is to find the elements of space buried from easy recognition but embodied in the direct sense experiences. While the mind acts upon the reports it receives, the reports, it is claimed, include the characteristics of space in their witness. There are some thinkers of our own day, therefore, who hold that the common-sense acceptance of space as an externality is the true one. They claim

that our gradual apprehension of space is no proof that space is undergoing construction, but only that we find it out gradually. Space thus becomes that in which objects are afloat. The half-objective, half-subjective view of space seems the more warranted inference than the view taken of it as wholly subjective. If space is wholly subjective it must be true either that each of us makes his own space, the world then becoming purely individualistic or solipsistic, or that space is an imprint left in every mind by the impress of a universal mind. In the first instance we have as many spaces as there are individual minds, and in the second we are carried off into absolute idealism with all its difficulties. The results, then, to which the assumption that space is subjective leads make the supposition that it is objective preferable. But taking that position does not require us to deny that our minds must act upon the reports which they receive of this objective space through their sensations and perceptions.

A very subtle question which grows out of the discussion whether space is subjective or objective in character is that of the infinity of space. The problem was first brought to the front in the realm of philosophy by the Eleatic Zeno. His direct interest in it lay in its use to prove that movement was logically unthinkable and that therefore we have a world on our hands that is at rest. He sought to demonstrate this to be the case through several

logical puzzles, of which a speculative race between a speculative Achilles and a speculative Turtle is the most famous. If the speculative Achilles, the ten times faster runner, gives the speculative turtle a handicap at the start, he cannot catch up to it the way that the speculative world in which they are running is constituted. Achilles will always remain a lap of the same fractional length behind the turtle. While the speculative Achilles is covering the unit of distance allowed at the start to the speculative turtle as a handicap, speculatively the turtle has gone on his speculative tenth of a lap ahead of him. Relatively they will be the same tenth of a lap apart at the end of the second speculative lap as at the end of the first and so on *ad infinitum*.[4] In fact, if the problem is argued out with rigid exactitude, it can be shown that since the two always remain the same one-tenth of the previous lap apart and must continue to do so because they cannot exhaust an infinite series, their position with relation to each other has never altered. And so they have never moved at all; the idea that they have has been pure illusion. All of Zeno's difficulty seems to be of his own manufacture and to lie in the confusion of space for purposes of speculation with the objective space around us which is no respecter of our speculations.[5]

[4] Gomperz, *Greek Thinkers*, Vol. I, p. 195.
[5] Fullerton, *A System of Metaphysics*, p. 172 ff.

In the actual realm of space, while we can always think of further extension, the object most distant, for example, a star farthest away, is a definite distance off. Practically, objective space lends itself neither to infinite division nor infinite addition. It is only in the space of mathematics that we have infinitesimals included in finite wholes. The logical difficulty in this assumption is solved either by making infinity a quality or in assuming a one-to-one correspondence in an infinitesimal series.[6] This latter conception is called the new infinite. But whether we endeavor to solve the question logically or mathematically, it seems evident that the confusion here grows out of space as thought of in speculation rather than space actually measured and found. Measured finite space is a fact; infinite space is a mathematical speculation. In the new doctrine of relativity which Einstein has made known, space in the universe is made finite.[7] The relative relations in space with which we have to do are not thinkable if we assume an infinite space in the universe. The finiteness of the universe and its space presuppose an objective as over against a speculative space. It is becoming apparent that it is more reasonable to base our thought on the supposition that space is objective and finite, since

[6] James, *Some Problems of Philosophy*; *Novelty and the Infinite*, pp. 154 ff., 178.

[7] Einstein, *Relativity*, p. 128.

the counter supposition that space is infinite creates more problems than it settles and opens a gap between the world of sense and the world of thought which it cannot bridge.

Time has often been conceived of as space's double. It was looked upon as a static framework within which events took place and could be located. This was evidently the thought of Kant, for he argues that time is a form of the mind prior to experience in the same manner as he posits an a priori character to space. He conceives of it as a unity, as impossible of banishment from thought—though all events might be non-existent—as infinite, and as the basis of mathematical thinking. But there are two difficulties to interfere with holding to the parallelism of time with space. The first is the fact that, in our mental experience, time is far closer to ourselves than is space. Our thoughts and reflections have a time reference in their very nature, far more intimately so than they are, bound up with space. The inner life of man does not move through space and cannot be localized therein, but it is of one substance with time. Time is the sense of succession and duration. It is the more comprehensive form of reference, because space is excluded from direct entrance into the world within our minds.

The second difficulty that interferes with identifying time closely with space has been well stressed

by Bergson.[8] He rightly contends that to conceive of time as a static framework is to confuse it with space. The very nature of time is movement. It is always eating into the future. Coming from the past it swells out into the present and then flows on into the future. But more important than movement and succession in the make-up of time, thinks Bergson, is duration (*duree*). There belongs to time as part of its nature a thread of continuity and a lasting quality which leaves its movements not a mere lot of disconnected events but imparts to them instead a unity of direction that is best named duration. Both as experience and as idea derived from experience time belongs not to the world of rest but of movement. But though time in the characteristics just noted differs from space, the argument for the infinity of space and the finite experience of space holds good just the same for time. In one respect, i.e., in the endlessness of time conceived as eternity, there is an even stronger trend toward the qualitative idea of time. The conception that infinite time, mathematically arrived at by removing the possibility of limits, is eternity denies or leaves out the characteristic which gives real content to eternity. Quality must be added to infinite time to give eternity its real import.

The course of recent speculation on the relativity of space and time is leading up to a more synthetic

[8] *Time and Free Will*; "Duration" in *Creative Evolution*.

and concrete conception of the universe such as is to be found in the philosophy of Alexander[9] and Whitehead.[10] Thinkers today have begun to deal with the thought that time and space belong together in a four-dimensional universe instead of a universe three-dimensional in space and one-dimensional in time. In this most recent point of view, events and places in space are not separated. There is a point-instant in all things and events. Indirectly even the happenings of the mind have a time-space reference. At this moment I am sitting in my study writing and one hour hence I shall still be sitting here. In reference to my room I have not moved, but in relation to the course of the earth I have moved 66,600 miles. A realistic view hereafter of the universe will no longer allow the tearing asunder of time and space. The two will be interlinked in a real event-space. The more we think of this newer attitude the stronger its appeal is likely to become.

QUANTITY

The problem of space and time as soon as questions of practice are taken up sets us tasks of measurement. And measurement of every sort is work done in the execution of mathematical demands. In their comprehensive form mathematical demands

[9] *Space, Time and Deity.*

[10] *The Concept of Nature; An Inquiry Concerning the Principles of Natural Knowledge.*

are the problems of quantity. Quantity is more fundamental in thinking than quality. Quality is the given and describable in sensations and objects, but skill in the measurements of quantity underlies and is the main dependence of many sciences. The science of physics achieves all its accuracy and exactness through its mathematical formulas and solutions. All that separates astrology with its doubtful inferences from astronomy are careful observations put into quantitative form. Chemistry crosses over from its qualitative aspects to its quantitative and has its mathematical equivalences. In physical chemistry quantity plays an even more conspicuous part than in organic. Biology becomes a calculable science with Mendelism and its demand for the working out of definite numerical proportions in heredity. Psychology has not only called quantity in with the law of Weber, which states that stimuli and impressions increase in relation to each other as arithmetical progression does with reference to geometrical progression, but it has also developed limited methods of measuring intelligence. History could not get along without chronology as a framework, and economics and sociology are employing the science of statistics. Thus quantity fills a large place in human knowledge. And its employment in practice is as extensive as its use in scientific theory.

Its champions have claimed that quantity pro-

duces the greatest certainty, exactness, accuracy and universality of any category in human thought. Whatever is mathematically determinable seems particularly assured, provided the problem has previously been put into proper form. The striving of sciences of nature is always toward formulating all conclusions quantitatively. From the immense profits derived from the multifarious use of mathematics it has been inferred that it is entitled to be called the way of thinking par excellence. In reaching that decision most stress has been laid on its certainty and universality. Kant claimed that mathematics gave us sure knowledge prior to experience. Whatever experience alone distils from reports from outside is subject to variations and uncertainties, and produces assurance only relatively certain. The certainty and universality derivable from this source are never final. But the knowledge derivable from the axioms of mathematics, since that knowledge is not primarily dependable on anything without, is absolute, logically cogent, and sure. So Kant argues that the firm basis of knowledge can be found only in definite a priori knowledge untouched by the fluctuations of experience. Real knowledge of an indisputable sort is to be attained solely by a priori synthetic judgments. His definition of a synthetic judgment is one that adds actual information not contained in the subject in contrast with an analytic judgment which only

unfolds in the predicate what is given in the subject. If I affirm, for instance, that matter is extensive, or that God is almighty, I am only making explicit what is implicit in the terms matter and God as they lie in my mind. Over against this kind of judgment, mathematical statements, especially in geometry, are synthetic and add what is not given in the subject. The straight line is not known as in itself the shortest distance between two points; "the shortest distance" is a real addition of meaning universally valid and certain. And by other applications of this principle follow other like certainties.

But in our day this claim of absolute certainty for mathematics has been disputed. The French scientist Poincaré claimed that mathematical definitions and axioms are only conventions and assumptions. The geometry of three dimensions was held in Kant's day to be absolutely sure within itself as a logical necessity. Today mathematical thinkers by tracing its history are able to show that it arose inductively from surveying practice. It does not possess any charter to stand alone as an absolutely cogent system of thought. If the curve instead of the straight line be made the basal definition, a geometry of four dimensions which is logically as certain as the geometry of three dimensions can be and has been worked out. In other words, thought can project other systems than that

of our world of three dimensions and the claim of absolute certainty for mathematics is exploded.[11]

The sureness of number and measurements of space and time turns out to be only another way of saying that a particular system of abstractions from experience is self-consistent, but useful only insofar as it proves itself applicable when put to the test of experience. As knowledge prior to experience, mathematical knowledge is not restricted to one exclusive form but can take on various speculative forms. This limits its force and destroys its claim to be the highest and best form of thinking. Furthermore, quantitative thought as highly abstract can never be a substitute for the richness characteristic of quality. The real world shows equal respect for quality. To the realities of life which are values as well as mere existences, to the true, the

[11] Dr. J. M. O'Sullivan, in his book on *Old Criticism and New Pragmatism*, p. 111, says correctly: "Euclidean geometry has operated under assumptions which have always baffled every attempt to prove them. It has, for example, been forced to assume either that the angles of a triangle are together equal to two right angles, or that through the same point, and not more than one, a parallel can be drawn to any given straight line. Now, however, it has been found that starting from assumptions different from those of Euclid, we can develop various perfectly self-consistent systems, the results of which are not in harmony with those of ordinary geometry. Thus we may regard space as having a constant curvature instead of being homogeneous, of being four instead of three dimensions, as being such that we can draw (through a single point) any number of parallels to any given line, and so on. We find, however, that these assumptions involve us in no inherent absurdity, no self-contradiction."

beautiful, the good,[12] quantity is not applicable. Its usefulness is restricted to natural science or those features in other departments of knowledge most closely related to natural science, but it cannot be used with much advantage beyond these limits. Consequently, quantitative thinking has lost its battle to dominate all thinking and demand increasing conformity to its methods.

CAUSE

Of equal importance and in some respects of greater value as a presupposition to our thinking than space, time, and quantity are cause and the question of causality. Cause touches directly the inter-relations of things with things, of things with minds, of minds with minds, and the whole idea of the development of the universe. Usually a cause is thought of as that factor or force which produces a necessary result known as effect in the event. Actually no single cause is the mother of any one effect. Instead, whole sets of conditions and antecedents operate to bring about other sets of conditions and consequences. The work of isolating by means of analysis one feature in a complex situation and deciding that it is the main cause is a piece of mental convenience on our part. Actually there

[12] Aristotle's mean is not strictly mathematical although proportion, arithmetical and geometrical, are used by him in defining justice.

never is such a single cause, for always many contributing factors enter into any given situation. What we actually observe is the sequence of certain events following in the train of certain other events. In most cases we can put our finger on no energy or force which produces an effect and we can never run one back to its birth. It is through the discovery of worlds of energy in physics that we have added energy as a factor in these sequences called cause and effect. No way has been devised to show how far all that is causative can be classified under this head of energy. There seems to be a causative power in mind and a creative force in the highest types of mind as it rises up to genius. We must therefore not identify cause in every instance with energy nor rest content with the fiction that something mysteriously energizing resides in whatever we please to call a cause. An effect in its turn can become a cause and both be the last members in an endless causal chain stretching into the remote past. Where did it start and whither will it go?

The question of the whither of this ever-lengthening chain of cause was the beginning of the prominence given to causality in Western thought. It was at its prompting that Aristotle portrayed the whole course of nature and man as a striving toward an end, toward a final link in this endless chain of cause. Socrates preceding him had begun to detect useful adaptations between things and to emphasize

their purposes. Plato next associated the great end of the universe with the good and was the first to develop a teleological or purposive ideal for the universe as a whole. But it was Aristotle who gave definite logical form to the grand consummating or final cause and purpose. Within this all-embracing main cause or purpose he combined three other main kinds of causes. The first was the material cause, that is, the matter of the universe which was employed and worked upon. The second was the instrumental cause or the direct thrust responsible for the passage upward from the simple to the complex. The third, called the formal cause, gave direction and aim and exercised general control over the causal upward movement that finally led to the end and the grand consummating or final cause. In fact, the final cause was the realization of the purpose contained in the formal cause.

For centuries after Aristotle no one ventured to discuss causality. His conception of purpose and its working out and the teleology of the universe ruled undisputed until the coming of modern science. The philosopher who first attacked this same problem in modern thinking was David Hume. Prior to his time Descartes, Spinoza, and Leibniz had derived such ideas as they had in regard to causal questions from their conception of substance. But Hume argued that, as our sources of information are restricted to mere observation of phe-

nomena, cause cannot mean to us necessary connection without, but simply customary conjunction within the mind. We see, for example, one billiard ball hit another. When the second ball always moves after being struck a number of times by the first ball, we improperly speak of the blow of the first ball as the cause of the movement of the second. All that we properly know is the contiguity of these two events in experience, and any tie between them is the product of an association of ideas in the mind affirming it according to Hume. Every event is separate from every other, and the only conjoining of them is the work of our minds acting upon the reports of observation. No potency inheres in what we call cause, Hume maintained, to bring about an effect. An alternative reading of any causal conjunction may always be devised. Hume reduced cause, therefore, to mere probability of recurrence, an expectation arising in the mind through association of ideas. But Kant was not satisfied with this dissolution of cause. He felt, as most of us do today, that necessity must be included with sequence in the idea of causality. Cause then had a logical basis conferred upon it by him by being construed as a necessary form which we add to nature for its more successful interpretation. Many later philosophers and logicians have taken a similar attitude and explained cause as the inescapable refuge of mind when viewing the sequences

of nature. But we are inclined, as in the case of space and time, to hold that a binder exists between these sequences without as well as within the mind. It seems best to give cause this double character.

Since the rise of modern science we have concerned ourselves mostly with the one or two immediately preceding links of causation in a given chain of events. These secondary intermediate connections of phenomena occupy a place of first importance in the descriptions and explanations of science. But once go back of them and the pressure grows ever stronger to assume a first cause, which is properly not only first in the almost endless series and like the whole chain, but which shall be also fundamental and the real source and cause of all causes. It has seemed best to many thinkers to name this first cause the ground of the universe, and make an essential distinction between it and the usual causal category. And this procedure appears to have strong arguments in its favor. Left to fend for itself, a mere infinite series of the same secondary causes seems to hang in the air and to lack a necessary basis. Supplying a first and fundamental impetus and reason for the causal chain justifies that chain of secondary causation and gives unity to it. This inference by which a first cause is secured appears to be fair and just. But let the assumption of a first cause be granted and it involves the assertion of a grand consummating or final cause. If

the first cause is not only by nature a reason as well as an energy, it has an end and a purpose that it is working out. While it is wrong to jump at a single bound to the first and then by a second big leap to the final cause, without waiting to examine carefully and patiently the actual process of the universe and note its connections in their minutest details, nevertheless the demand remains just and logical that we spend the time and labor required to unify all secondary causation and to find both its source and end. The whole issue here is one of granting the necessary satisfaction to thought for which it calls and which philosophic logic ought to furnish.

SUMMARY

We must now ask, what are the fruits of this discussion of space, time, quantity, and cause from the standpoint of their use as fundamental suppositions in all our thinking? Whither do they point? Space and time if their objective-subjective character be accepted point to the existence of both mind and matter. Their responsiveness to measurements indicate relations of intelligence. Are these relations within space and time, or are they suggestive of an intelligence above and beyond which has impressed itself both upon mind and matter? Quantity and all mathematical relations strengthen the force of space and time in their demand either for an in-

dwelling intelligence in things or an ordering intelligence which has stamped itself upon the universe. The only other way out is to assume that the human mind has imposed its quantitative ideas upon the universe. If we should adopt this view, which presents enormous difficulties, the question then comes up why did the human mind do it? Did the necessity which led to it force its way in from the world without or arise in the world within; and that question settled whence were quantitative connections derived? Are they original either with the human mind or with matter, or do they point to a mind beyond and above? Causality, in raising the question of first cause and of final cause, also establishes points of contact with both mind and matter. But can we stop with them or are we in intellectual honesty bound to press onward to some first and final energy and wisdom? Such are some of the unanswered problems related to these primary questions. Philosophy at any rate cannot stop with them but must dig away in search of further inferences which must be carefully weighed and either rejected or confirmed, and permitted to make their contribution to man's growing concept of his universe.

CHAPTER II

The Mechanics of Matter

WHEN the term matter is mentioned the common man supposes that the reference is a very simple objective affair. Do we not see and touch matter directly? Do we not taste and smell it? There can be no doubt apparently about it. Here you are looking out of the window at a tree and you are certain that you see it. Your sight of the tree is direct evidence that it is there and that it is a certain sized piece of matter. But have you ever considered that the optical image of a tree differs according to its distance from you, and that somehow you allow for this difference in distance and give all trees within a certain area around you one size? If I should look at the tree as it is mirrored on your external eye I would see it upside down. What corrects its upsidedownness for you? Now are you still so sure that you see matter directly?

Many are the similar known illusions of sight. When a train alongside of your train moves, you ascribe the motion to the train in which you are sitting because you expect it to move. Touch offers more reliable testimony and yet you can be deceived if you attempt to distinguish between several objects

by touch alone. Your hearing can only report upon sound waves between 16 and 30,000 vibrations per second. Taste and smell are chemical reactions taking place in the taste-bulbs at the back of your tongue and in the smell-bulbs at the upper end of your nose. Of course ears, mouth, and nose are not sending-stations that project sounds and tastes and smells, but just as surely sounds, tastes, and smells do not come to these receiving-stations from inert matter. Sight by means of light-waves is not a transaction with dead matter. Touch alone as it meets resistance and experiences solidity testifies to these qualities of mass and weight. Is matter really a solid dead lump? What does science have to say on this subject? Does it treat matter as some heavy, ponderable substance?

Originally matter was regarded as the real substance of the universe and thought to be either water, air, or fire in make-up. Then four elements, earth, air, fire, and water, were accepted as exhausting the forms of matter for many centuries. But the speculations of Democritus based all reality upon atoms, and sought the secret of the make-up of matter in the smallest divisible particle. So it was still believed to be ponderable and to possess form. But the inference was drawn that the total sense experiences, which were supposed to give direct evidence of the constitution of matter, were not correct from the point of view of their face

value, but as signs and indications of the nature of matter in itself. Consequently the ideas of matter held by the common man could not be accepted. On probing deeper something below would be found, an underlying substance, which would be matter. Even as far back as when Thales imagined water as the first principle, his selection of one principle as the norm discounted the direct evidence in regard to the constitution of matter supposed to be given through our senses. The first investigations into the nature or make-up of matter led away from what the unthinking still picture matter to be. As time progressed matter became more and more sublimated in its characteristics, less and less material in the usual meaning of that term. Today matter, through its conception in the terms of energy, has been almost decomposed into energy. In fact, a physicist of the standing of Ostwald thinks that energy is the source of matter. But even if we still accept matter as distinct from, but instinct with, energy, it is a very subtle and highly attenuated substance of which we are thinking.

The history of the debacle of materialism is very interesting. The counter-arguments of mind are not needed to refute it, since in whatever form it has presented itself, in whatever shape it endeavors to foist itself off as the reality of the universe, it at last digs its own grave. The result in the end is something so near the border line of the immaterial so

highly speculative, that it is far more inference than observation. No one can put his finger on the ultimates of matter as direct facts of observation. It can only be imagined and pictured on the basis of minute experiments in which the facts employed are overloaded with theory. Matter, speaking scientifically and philosophically, is today not a fact but an inference. How far is this inference justified? Can it explain the whole world or must we combine another principle with it to obtain a full account of the universe?

In physics the supposition of molecules, which are always in motion even though the object in question appears to the senses to be at rest, has demonstrated its usefulness in hosts of experiments. The inferences of physical science based upon it have been justified within the realms of heat, light, sound, and electricity. This conception of matter put mechanism on the throne. Not only when taken one by one were the relations between the forms of matter such as can be expressed in inevitable laws of action, but the grand sum made by inter-relation of all forms of matter leads to the conception of the universe as one great machine. Matter as that through which the different forces at work around us functioned could well be regarded as conspicuously the same throughout all the universe. The same laws of attraction and repulsion were found everywhere. Gravitation was

present in the heavens as upon the earth. The law of the lever was in effect not only in inanimate levers, but also in the living lever of the human arm. Thus gradually scientists, because the presence of mechanical action was found to be so ubiquitous, sought to bring everything under its sway and make it the all-sufficient explanation of the universe. From the days of Democritus, who endeavored with his mechanical atomism to get men to admit that even the soul consists of a finer sort of mechanical particles, there have been many attempts to mechanize all life as well as non-life. Mechanical action does occur, to be sure, in the highest living forms, but does that prove a living cell to be a mere mechanism? Is the functioning of an amoeba strictly duplicated in the mechanical action that goes on in the falling stream? Is the movement of the gray matter in a human brain purely molecular? Certain functions of our senses are geared to the brain, but can that connection be fully explained in mechanical terms? When a crab loses one of his claws he grows another one in its place, but such a process is unthinkable of negotiation in or by a machine. A broken wheel does not replace itself. The highest spheres of existence cannot justly be made subject to mechanical rule unless we attend simply to the physical elements present and neglect all else in the total situation. Mechanical process as the explanation of all that goes on both in life and non-life is an inference not justified in the light of all the facts.

There is an important side to mechanism which is often overlooked. If we compare the universe to a machine we must show not simply immediate connections between the parts, but also a plan of the whole. A world mechanical in make-up, or even a partially mechanical world, should be prepared to respond to a request to show its plan like any other structure of a machine-like nature. Men are inclined to speak slightingly of Paley's comparison of the universe to a watch, and his argument is defective if the thought be that the parts were made and then assembled and put together like those of a watch. But if you think of the world as consisting of facts inter-working and fitting into a unity in their operations, there is substance to the point of view that the whole of the mechanism of the universe involves at least purpose and end and perhaps specific design. Consequently, the mechanist cannot get properly rid of the problem of intelligence. Are there evidences of intelligence within the total structure of the universe from the mechanistic angle? If, as is apparent, there are, does the functioning of energy within matter produce the intelligence? If the energy exhibits not only power but power subject to marvelous regularity and unchangeable mathematical relation, what kind of energy must energy be that displays not only power but reason? Even in the contemplation of the merely mechanical are we not crowded in our inferences out of the

material and mechanical into somewhat beyond? Is not mechanical theory incomplete in itself and therefore no solvent of the whole universe?

One of the conceptions underlying the mechanistic theory of matter is its indestructibility. Experiment seems to demonstrate that, whether matter changes from solid to liquid or gaseous form, it never ceases to exist nor does it even become less. The amount of matter remains the same. But while this may be true within the limits of our observation and experiment, are we justified in saying that it is absolutely true? There is a speculation of physicists called the entropy of energy which supposes that the different forms of energy will finally be converted into heat and then lost in the universe. If this speculation be true, what will happen to the matter through which the energy now functions? Must it not be destroyed when the energy disappears, since the two are so much one in all their manifestations? The assumption that matter is indestructible is perhaps to be taken as relatively true, but not as likely to prove final and absolute in the outworking of the universe. The universe does not appear to be a static machine but a structure that is always changing and aging. In the past it has run through cycles. Up to the present we have no strong evidence that it possesses powers of self-renewal and is by its very nature eternal. If matter is forever indestructible in the full sense of

the term, it has always been so. Consequently, we must assume that there always has been and always will be a definite amount of matter in the universe. Even if we think of it as infinite, then it must be definitely infinite. Were this true there would be no real development, and all that ever has occurred or can occur is simply the rearrangement of its patterns. There can be no addition nor subtraction to its mass. Consequently, a mechanistic universe thus conceived must do away with the reality of evolution in the sphere of matter. The definition of evolution found in Spencer virtually proves this to be the case. According to that definition, evolution is the mere passing from the homogeneous to the heterogeneous, the integration of matter and the dissipation of energy. The passing from the like within itself to that which is unlike affords no scope for creative development, and indeed opens up the question how the like can be the mother of the unlike. Similarly, no actual unfoldment need take place in the integration of matter, but simply a combination of particles of matter previously independent of one another and possibly chaotic. The dissipation of energy is its scattering, no more and no less, which can in nowise be construed as development. Spencer's definition, resting fundamentally upon physics and assuming the eternity of matter and energy, is the picturing of a universe in the process of rearrangement but essentially non-

developing. Moving within its own coils, that universe is after all without a real history when it is reduced to the last analysis. The real course of development found in biology altogether contradicts the claims of this idea to be a satisfactory explanation of the whole world.

The transference of energy from one form to another is another inference of the physicist.[1] Through many experiments he has shown this to be relatively true. But the theory of entropy mentioned above, namely, the transference of all energy to the form of heat and the final petering out of heat so that it is lost, puts its veto on the conception of the transference of energy as absolute. In other words, there seems to be evidence for the inference that the world is growing old. The history of the heavens shows us stars that have grown old and cold. The moon is a cinder of a world. We find stars in all stages of development, passing from the nebulous planet stage, which is now held to be their original condition, to the gaseous, fiery stage like that of the sun, and the solid period like that of the earth, and so on to the final extinction of all conditions for life. The history of energy set forth in the heavens shows origins, developments, and cessations. Stars are formed by the scrambling together

[1] "There is no direct way of proving this principle. We know it to be true in almost countless instances, and assume it always to be true." (Oscar M. Stewart, *Physics*, p. 104.)

of clusters of lesser wandering stars; these also can and do afterwards divide and subdivide. This account of the universe does not favor the idea of an endless development, but indicates rather that sometime a final chapter will be written. What becomes, then, of the usefulness for thought of the theory of absolute energy acting through eternal matter? Are the transformations the only history that takes place on matter, which otherwise and in itself remains always the same? This must be the terminus reached as often as you carry through to a finality the thought of the indestructibility of matter. Since matter and energy are always found in combination, must we think of energy, too, as eternal? If we do so, shall we say that indestructible matter makes energy indestructible by providing it an indestructible vehicle, or is it more reasonable to hold that energy which gives matter its impetus is primary and when energy goes matter will go too. The latter seems the more acceptable; the history written thus far by energy does not point to endlessness and so sets limits to matter.

The problem of mechanism in nature cannot be fully understood unless we properly weigh the fact that throughout the study of matter definite results are arrived at through the use of quantitative formulas. Apart from its mathematical relations matter is chaotic. The modern development of physics would have been impossible otherwise than

by extending the scope of the mathematical measurements employed. When we study the qualitative make-up of the stars from the point of view of their internal force-relations, we must use quantity. And in describing the course of planets, in ascertaining the light-years, and in forecasting eclipses, phases of the moon, etc., we are altogether dependent upon mathematics. There is a marvelous order in the heavens. And upon earth there is similar order and quantitative relationship attaching to matter and energy. This account of "things in general" does not impress us as the fanciful work of the human mind and the mere invention of science in its efforts to make the general scene more intelligible. Rather are we led to conclude that an intelligent order resides within an objective sphere of matter and energy. There cannot be a legitimate inference drawn by which an energy working by accident in matter can bring about an ordered world. Chaos can be prior to the universe in time, but chaos cannot logically be assigned as the cause of the order in the universe.

SUMMARY

Whither are we directed and carried as we sum up the problems raised by matter and energy? We find that man's study of matter has reached a point where it becomes ever more and more attenuated and is not thinkable except in terms of energy. Its

relations are intricately mechanical and consequently imply the presence not only of action but also of some end. There are difficulties hard, if not impossible to surmount, that bar the way to the acceptance of eternal matter and energy as the solution of the problem of the ultimate of all existences. The mathematical relations of which matter and energy are compact are opposed to a world of accident and chance. Is order a by-product of the workings of matter and energy, or must we introduce an intelligence to explain its presence, beyond and above the realm of matter? Have we not good testimony that matter in combination with energy is unable to furnish the key to the explanation of the whole universe? Do not major problems connected with causality remain unanswered after matter and energy have said all they have to say for themselves as the full cause of the universe?

CHAPTER III

The Evidence of the Elements

THE problem suggested by the term elements plunges us right into the history and development of chemistry. Originally, Greek thinking began with one material element conceived as mechanical in form. Then Empedocles gave currency to the doctrine of the four elements, earth, air, fire, water, which was long universally accepted. But today we know of eighty-six elements and there may still be others not yet discovered. Nor are elements any longer conceived of as mere material counters mechanically related. They are different qualitative existences. What has brought about this change of view and added chemistry to the sciences?

In the Middle Ages chemistry was in its embryo stage and was called the black art. Its representatives, who experimented in their laboratories to find the philosopher's stone (which was supposed to dissolve all substances and thus enable men to convert base metals like lead into gold), were suspected as magicians. They were thought to be shady characters, and their hit-or-miss gropings after scientific facts were misunderstood. It was due to this mis-

conception that for a long time Paracelsus was regarded as a magician. Because these incipient scientists worked with the appearance of secrecy in their laboratories they were often held to be in league with the Evil One, as is evidenced by the Faust legend. They were accused of practicing the black art. But there came a time when chemistry freed itself of these suspicions and stepped out into the open.

What helped it to become a definite science? The first help was the increase in the discovery of elements with their separate characteristics. Composite substances were analyzed, and everywhere science found their components to be certain recurring, qualitatively constant elements. Thus knowledge was obtained of hydrogen, oxygen, nitrogen, carbon, and all the other known elements. But this much information was not in itself sufficient to establish the existence of a chemical aspect to the world. The development of qualitative chemistry, the first outcome of evidence furnished by the elements, proved to be only the opening chapter of a much more extensive problem.

Qualitative chemistry led to quantitative chemistry as soon as it was found that the elements always combined with each other in certain definite numerical relations. The manner in which the elements united produces, it was learned, the varying composite substances like water, soil, etc. Exact

formulas could be written and proven by appropriate experiments in which it was shown that not only are the elements constant, but that they also combine in a fixed manner. Finally a table of chemical equivalents was figured out that is really a framework of accurate mathematical relations. The scientific character of chemistry was established through showing that a definite order is characteristic of all alliances between the elements. The realm of chemical action is subject to no accident but rests upon ordered quantitative relations and connections. The same respect for order and law exists in chemistry as in physics.

But there is still another angle to be considered if we wish to obtain a rounded view of chemistry. It is along the pathway of the inference that leads to the atom. The atom mechanical by nature, which Democritus conjectured, had chemical character added to it by Dalton, who pictured the atom at first as a real existence. In the second stage of thought about the atom it was regarded as a convenient concept, but finally opinion veered back to the first standpoint that the atom possessed a real existence. The atom concept is responsible for the whole treatment of atomic weights in chemistry. And it was through the development of atomic weights, it must be remembered, that the atom established its usefulness as a scientific term. Today the atom has been deposed as the ultimate unit of

matter and analyzed into a nucleus possessing alpha particles and a net positive electrical charge, surrounded by non-nuclear electrons. There is a minute universe within the circumference of the atom containing millions of electrical charges in motion. But this newer knowledge has not destroyed the usefulness of the concepts of atomic weight and quantitative relation.

Now that the chemical atom has thus become electrical, a new combination of chemistry and physics has been established known as physical chemistry. It is very interesting to trace the results of putting physics and chemistry together again after analysis had divided and treated them separately. It is a proof that there are no absolute lines of separation in the sciences and that, when analysis has done its work, if our thought puts what it has taken apart together again, it will reap new rewards. This is the first and foremost value of physical chemistry in the logic of science. Physical chemistry has intensified our confidence in the law of constant composition, which asserts that every specific substance is always composed of the same elements present in the same proportion by weight. This enhancement of conviction is also true of the law of multiple proportions, which asserts that elements combine in the same ratio in two proportions as in integral relations. The mathematical basis for chemistry remains intact. But in addition there

is the very important discovery of radio-activity. Its speed in disintegration is independent of external conditions or the form of combination in question, differing from that of ordinary chemical reaction, and more sharply still from that of the chemical charges in the energies involved. And yet the rule obtains in the uranium-radium series of definite atomic weight in conjunction with the alpha and beta rays, and chemical analogues occur to the different radium and uranium elements. It is also remarkable that several of the radio-elements should have the same place in a periodic classification. But these elements, known as isotopes, while they differ in atomic weight and in physical properties, are chemically inseparable.

Physical chemistry deals with the molecular and chemical properties of solutions and measures the speed of reactions. In developing what are known as the principles of equilibrium, a quantitative means of dealing with such activities as those chemical interactions between water and chlorides is provided. These principles also explain the different degrees of activity shown by oxidizing and reducing agents. The most important of these principles of equilibrium is ionization. It takes the molecular properties of solutions and draws from them the theory of electrolytic dissolution. But while ionization works with molecules, it is a true, reversible, chemical reaction. The main philosophic

value of physical chemistry proceeds from this accentuation of the presence of proportion, order, and mathematical relation.

It is of interest to note that chemical action goes on in all existences. Exactly as we trace mechanical and physical functions in all things from the lowest to the highest, we find evidence of chemical combinations everywhere. Minerals submit to analysis into their chemical constituents. Because the soil is made up of chemical elements the problem of fertilizers rests often upon supplying missing nitrates. Chlorophyl plays so large a part in plant life because its basis is chemical. The nourishing quality of the plant that makes it good food rests mostly upon its chemical components. The cell has its proteids, its carbohydrates, and other chemical constituents. There is a chemistry of digestion and assimilation. The blood has its chemical qualities. The different glands, like the thyroid, the pituitary, the adrenal, all secrete fluids chemical by nature. The brain cannot be studied and the subject of the chemical reactions taking place in it overlooked. The production of many kinds of goods and the utilization of waste material are all dependent upon chemistry. This universality of chemical action has led some chemists to claim that they can solve the riddle of the universe through chemical formulas.

But reservations must be made to the acceptance of the validity of this claim. It is a marvelous

structural network which organic chemistry has woven together out of its four elements—oxygen, hydrogen, carbon, and nitrogen. The variations possible in the union of these four elements go far in explaining the physiological basis of living forms. But after giving these factors their full weight, scientists who study the soil have now turned from mere chemical analysis as not all-sufficient to delve into the biological aspect. Today it is known that certain plants cannot continuously prosper in the same patch of soil, not simply because it gets robbed of necessary chemical qualities, but because certain germs get used up. To keep the soil fresh, clean, and productive it must be inoculated with fresh supplies of those germs which have been exhausted and chemically fertilized. All this greatly lessens the likelihood of our ever solving the reactions in living forms through mere chemical action. The same exception must be taken to the way in which, in the study of glandular secretions and the functioning of the human brain, the advocates of the chemical point of view are prone to resolve all thought and all purpose and action in men into chemical reactions. It is a throwback, more subtly put, to the old material statement that the brain secretes thought as the liver secretes bile. But can this statement be substantiated? Is the whole life of man, his ideals, his aspirations, his moral judgments, reducible to chemical formulas? The error

in this point of view springs from its exclusion of certain additional factors in human life. This deprives it of the services of the distinction between higher and lower and forces it to deal with everything on the one dead chemical level. In the continuity of chemical action the principle of causality is swallowed up, and the presence of additional factors, such as life and thought, is denied. The complete explanation of the universe solely on chemical terms is only possible by overlooking the more complex and higher existences.

Constant pressure has been exerted by the tendencies in chemistry responsible for the hypothesis of the atom to run back the analysis of matter into smaller and smaller particles. Today the electrical point of view of the atom nearly eliminates matter from the reckoning and derives all differences of quality in terms of electrical energy. At times speculation on the atom has almost reduced it to a shadow of existence below a point. Nevertheless the intention has been to save a place for it in space. Of late the smallest electrons and protons have been given a spatial relation, but one so minute that it seems to cross the boundary line over into infinitesimal space, and such a space although still thinkable speculatively is no longer realizable in the finite space of experimental observation. That is the danger in the continuous subdivision of the atom, the danger of reaching a point so highly speculative

that the atom quite loses all serviceability as an explanation of chemical phenomena. Also there is a genuine logical danger in the growth of the practice of treating this hypothesis in discussion as though reality existed to correspond. There must be a limit, no matter how finely shaped, to the divisibility of the atom, if its reality is to be preserved. Analysis may come to the end of its usefulness in wild efforts to arrive at an infinitesimal particle out of reach of all our ways of measuring space.

There was a time when men captivated by chemical magic pictured the world as a ceaseless playground of chemical action operating under definite laws. It has been ascertained instead that elements are not eternal; for example, radium and uranium break up and crumble away. Elements seem to have a history although we have not yet fully discovered the complete story of their building up and breaking down. If chemical action thus falls within a domain of development and decay, it has lost its standing as a constant in the universe along with the matter of the physicist. This change of status suffered by chemical facts makes it impossible to find in them the solvent of the universe.

In chemical reactions we cannot arrive at a scientific statement of what takes place unless, just as in physics, we do so on the basis of certain laws. Of what nature are these laws? They are not laws in the sense that obligations to be fulfilled are laws.

Clear as this distinction is, chemical and other natural laws, nevertheless, are often treated in discussion in ways that make people believe them to be similar to moral commandments. A chemical law is, first of all, a statement made by our minds in reference to the regularity and uniformity observable in the repeated recurrence of certain phenomena. Our minds would be no match for the kaleidoscopic changes of the world without the assistance of this power of generalization and therefore when we begin to think about the arrangement of phenomena we seek regularities of sequence in their actions. Is a chemical or natural law of any other sort, then, than a mere abstraction of the mind, that and nothing more? Have we imposed these regularities for the convenience of our own minds in the handling of a world which in itself is without order, regularity, and uniformity? If we take the finite space of experimental observation as our standpoint, there is no escape from the conclusion that we have only discovered the laws of nature, and not invented them. Nature then conveys to us evidence of order and regularity in its actions. The unreliable and the exceptional does not rule.

SUMMARY

The evidence of the elements has corroborated the indications of physics. We have not been able to dispel the impression obtained of the presence of

order and of law that bears the earmarks of reason. Our opposition to accidentalism has increased; but we have not met with anything that required us to add a third to reason and regulated power as the determining factors in the universe. Chemistry, however, leaves unexplained many facts, and by this display of its limitations points beyond itself. Its evidence alone is not all-sufficient. We must proceed on our way and investigate other departments of human knowledge in order to follow out the trail to the final synthesis.

CHAPTER IV

The Record of the Rocks

IN the modern era of science, geology opened the way for the later growth and expansion of natural science. Observers like Lyell gathered many facts about the structure of the rocks from which many inferences were drawn in reference to the formations of the crust of the earth. Scientists have gradually reached agreement that the primitive formation, with its subdivisions into the Archean and Algonquin, was followed by the three great periods of the Paleozoic, the Mesozoic, and the Kenozoic. After the early Cambrian stratum, in the Paleozoic, we find the first invertebrates in the Ordivician, fishes and insects in the Devonian, and amphibians and coal-plants in the Carboniferous and Permian strata. In the Mesozoic period, ascending from the Triassic through the Jurassic to the Cretaceous class, we come upon fossils of reptiles, conifers, and palms. In the latest Kenozoic period, including the Tertiary and Pleistocene classes, we arrive at traces of mammals. Man is found at last in the Pleistocene or post-Tertiary or Quaternary stratum. This is the order of succession of strata as fixed by Werner which has been adopted by many scientists.

Later upheavals explain the fact that in many places very old rock formations are found on top of the younger rocks. Sometimes a great slant occurs. These things have not unsettled the common scientific belief in this hypothesis. But the fact must not be lost sight of that it is and must forever remain a hypothesis which cannot be absolutely demonstrated. There are facts on which a supposition might be based that the strata followed in a different order at different places.

There is, however, another consideration to be taken into account. In the successive layers fossils occur belonging to pretty much all the species in the order of their rank in the plant and animal world. Consequently, this constant upward progression to more complex forms makes this order for the rocks seem to fit into and square with the hypothesis of the evolution of life. This is true but we must be careful not to permit it to persuade us to argue in a circle and try to use the hypothetically assumed order of the rocks to fix the age of the fossils. There is nothing decisive in the geologic character of the different strata to fix the date of one as earlier and another as later, but the probability is high that first the strata which contain the simpler forms appeared and then those that contain the more complex living forms all the way up the scale from the invertebrates to man.

Human speculation has changed its mind more

than once about the force or forces that have formed the earth. At one time water was put forward as the cause—this was called the Neptune theory—and substantiation for it was apparently found in the discovery of forms of sea-life on high mountains. But today, while it is granted that certain portions of land have emerged from under water while others have been flooded and submerged, the action of water is not held to be the universal cause but only a contributory one. The action of the glaciers is at present assumed to be the general cause of the present lay of the land over great parts of the earth since large areas of the continents, it is believed, were covered long ago by a great ice-crust. Changes are still taking place on the earth, and the not infrequent earthquakes in certain sections, in California and Japan, for example, are explained as the settling of the earth along the line of great faults or cracks in its sides. Volcanic action also is still continuously going on inside the globe. This proves that the earth has a history and is not changelessly eternal. The conception of a single great cause committed to uniformity of action is purely speculative. There have been objectors to it. This principle overrides many details of observation that might be thought to point to greater variations than can be cared for by it. But perhaps it will be found preferable to the opposite assumption of many and varying causes. Back of the trust

in the assumption of a single great cause lies a certain set of the mind that will not rest content with chaotic or complex accidentalism. Even where, as in geology, the evidence for order and uniformity is not as definite as in other sciences, the mind clings to it. The trend of scientific thinking shows that speculation is never likely to remain content with mere fortuitousness.

Another assumption, by which the age of the earth and the time expanse of the different strata are fixed, is that of regularity of pace in its changes. The amount of change that is now going on in a definite interval is observed and taken as a standard of measurement for all past time. When we observe how many inches of the rocks below Niagara Falls destroys per year, we estimate the time it took them to eat away the present gorge. We calculate in the same manner the time span of other rock detritions and thus arrive at millions of years as the time required for the earth to become what it is today. This whole chronology is founded upon the conception of uniform action at a constant rate of regularity in the processes of nature. There are few or no facts except those of present observations in support of this hypothesis. Changes might have gone on more rapidly on the earth in the past. Great upheavals might have occurred suddenly. In some years much deeper beds of silt might have been deposited. Can such conjectures be ruled out as

altogether impossible? Do not the varying thicknesses which are found in the layers of rings in old trees seem to tell the story of varying years of change? And yet despite these possibilities, scientific thinking remains wedded to the principle of uniformity. It can make no allowances for the possibilities of varying actions. What does this prove? It demonstrates again the trend of the human mind to dispose the flux around into an orderly world of regular processes, even though this procedure cannot be fully justified. It is the assumption, just the same, that best satisfies the searching mind intent on finding the patterns energy employs. Where the significance of the facts is not altogether clear, inference may go beyond the evidence to bring a given group of scientific data into unity with other scientific conclusions.

Apart from their speculative side, the facts of geology might be used to support the conception of an earth formed by great forces working blindly and the final result arrived at as just a happen so. Indeed, there have been geologists who have told the story of the earth in a manner to create the impression that it is the work of arbitrary power and force alone. There appears to be no place in their version of that story for intelligence and end. But if we couple geology with biology this idea of blind, unreasoning energy as its source has to be thrown overboard. The fossils considered in rela-

tion to the different strata in which they are found display connections and adjustments between earth and these living forms which it is hard to explain as merely accidental. Could there be such an accumulation of accidental inter-relations at all stages? Is the whole question of the geographical distribution of animals, to which geology is related in part, explicable as chance? The glacier grinds down the rocks and forms the soil, and the plant is only able to grow in the soil thus formed. Are these chains of results only the product of repeated accidents?

SUMMARY

The signposts of geology do not supply any additional guidance toward the solution of the problem of power and intelligence beyond that furnished by physics and chemistry. In fact, its pointers are not as definite. Nevertheless, the great inter-relations of the universe that crop out even in geology seem to demand more than energy as their explanation. In fact, the speculative side of the mind is never satisfied with irregularity and mere accident as an explanation of any natural process.

CHAPTER V

The Lift of Life

IF we had to stop here, with the accumulations of fact and inference secured for us by physics, astronomy, chemistry, and geology, including mineralogy with its account of definite geometrical forms, we would be shut up in trying to account for what we had taken account of in the universe to indications of energy and order. These indications, however, if all possible cogency be allowed them, are not enough to create in our minds any conclusion in regard to the rounded whole of things, possessing more than a fair degree of probability. But when we come to organic beings and the problem of life we enter a realm from which definite confirmation may be obtained of the presence of order, reason, plan, and purpose in the universe. Pringle-Pattison holds that the coming of the modern age of biology has reinstated teleology, or the accounting for the universe from the point of view of end and purpose, in our confidence. Of course the first reaction of Darwin to the old argument for fixed design through fixed species led his followers for a time to a lack of appreciation of what the biological evidence meant. Huxley, how-

ever, saw the purposive implication of evolution. But before we approach the argument for purpose as found in modern biology let us ask the question: What is life?

The reply to this query is exceedingly difficult. If we elect to remain within the realm of observed phenomena we shall call those forms living which are characterized by a direct adjustment of inner functioning to outer relations, shown in assimilation and reproduction, birth, growth and decay, metabolism and inner organic unity. Is life merely a common name for these processes? This is as far as a biologist can go on the basis of immediate observation. But other thinkers have gone on to speak of a dominant of life in living forms, a something mysterious but not to be dispensed with in explaining the processes of living bodies. They attempt by inference to go beyond observation. But thus far every inference as to life only adds another mystery. When we cross the threshold from physical life to mental life the problem as to what constitutes life in itself does not become clearer but on the contrary more involved. Life as seen by the biologist remains confined to the descriptive, and when we ask for a fuller explanation we must seek it in the later stages of our synthetic task among the probabilities of speculation.

The origin of life has been a continuous puzzle to the student of life, and he cannot finally rest

satisfied with the links in the chain supplied by the origin of species. Many biologists take life as something given and do not inquire into its ultimate origin, and yet in any philosophic effort to understand it worth its salt this question cannot be thus brushed to one side. Some thinkers have sought to disprove the accepted statement, *Omne vivum ex vivo* (Every living thing comes from a living thing). They have attempted to prove the viability of the non-living by keeping tissue of deceased bodies alive and then endeavoring to discover how the trick was done. Others have claimed to produce life from sterilized broth. But none of these efforts thus far has succeeded, and the question is still open. Some speculators have tried the mechanical solution. They have taken, for instance, the desire of a moth to fly into the light—which is an example of what is known as a tropism—as illustrative of the explanation that life in its sum total is a tropism, a thrust given living objects by mechanical forces that ends in a mental disposition. But this theory has not met with much real favor. There seems to have been more promise in the chemical approach to life. But the analysis of the cell into proteids, carbohydrates, etc., comes far short of the full explanation of the cell with its germ-plasm, nucleus, and its chromosomes. Perhaps the mistake has been in depending too much upon analysis instead of trying to correlate the facts

into a synthetic whole. At least, no gains in the way of acceptable results have come from any of the efforts made to get below the unity of the cell.

The fruitful study of life begins with the single cell and passes from it to the polycellular forms of ever more complex structures. The secret of the cell as studied today is tied up with the problem of heredity. Through the researches of the Austrian monk Mendel, hereditary strains can be definitely calculated. There is an exact, mathematically expressible relation between the pure and mixed traits in any cell. The traits of our ancestors are not handed on in any random form but in an orderly manner. The question whether fixed characteristics alone are handed on or acquired traits as well does not affect the good standing of the law of heredity. There is no element of chance present here but a marvelously consistent and permanent regularity of operation from generation to generation.

Confidence in this reading of life is accentuated by the study of embryology. Each embryo, it is found, passes through certain stages common to all. In the process of development the remarkable fact is that in their early embryonic existence the higher forms are like the lower forms. Scientists have therefore conjectured that embryology gives a demonstration of the original order in the evolution of living forms, but this is not the question that concerns us now. The important fact for the uses

of philosophy is that there is a definite order in the development of life forms to which there is no exception. And finally, no matter what we conjecture concerning its past history, every embryo reaches a definite end. And this end is now fixed within the limits of a species.[1] Whatever variations take place and whatever may be the flowing relations between species, nevertheless every species completes its embryonic development according to the pattern of its own kind. This is the outcome at this end whatever may have been the original start at the other. And there is a fixity of order, aim, and purpose throughout the whole embryonic development of any form. It is this fact which adds teleological elements to sound speculation as to the origin of the process. In other words, the fair inference from embryology in the final summing up is in favor of the presence of purpose.

What are the characteristics of an organism? Every living form, from the lowest of plants to the highest of mammals, is a coöperative enterprise. There is a common functioning as well as an interrelation of all parts. While the use of all the vestigial organs cannot be explained as the offices performed by the thyroid gland and the vermiform appendix are now explained, yet these remnants

[1] "It is only in the very early stages that the embryo of man could be confused with that of any other creature; and even in the early stages microscopical examination reveals *specificity.*" (J. Arthur Thomson, *What Is Man?* p. 8.)

were all probably useful at some period in the past and not useless baggage from the beginning. When one organ varies, its fellows must also vary. It is impossible that even the slightest change should occur in any member of an organism without that change affecting the whole. A living organism is not a mere sum of its parts. It differs from a machine which, while made up of parts that coöperate, is unable to feed and assimilate and attend to its self-renewal. There is an end in the functioning of the whole which is another story from the one told by the coöperations between the parts. Even after we have described all the processes going on within the parts we have still said nothing as to what the organism as a whole is for and can do. An organism is a sovereignty with not only home but foreign relations. No physician can cure any organ without knowing the life of the whole man both at home and abroad. What do doctors mean when they speak of the constitution of a sick patient as a factor in the cure? What is this constitution but a name for a functioning attributable to a whole which is over and above the sum of its parts. The close life and death connection of heart and lungs, of stomach, liver, and kidneys, needs no demonstration. Haldane confesses his inability to explain the physiology of an organism in full in respect to its fine adjustments by either mechanical or chemical means of explanation. More seems to be implied

than is going on in its processes. An organism as a whole is functioning to an end of its own. There has been too little study of the nature of the purpose which inference naturally draws and declares belongs to an organic structure in living bodies. The failure to follow up or even draw this inference weakens much biological speculation.

As to whether the variations took place through very minute gradual changes or in sudden mutations, the philosopher is not concerned. His query is, rather whether the variations were accidental and fortuitous, no matter how long or short the time interval. For Darwin the changes had taken place accidentally; he could see no plan in them. Are we pinned down to take this view by the results of the observation of the variations? The variations that fitted into the conditions of survival are the only ones left to tell the tale. Out of millions of possible variations certain ones won the day. Were these successful changes the outcome of chance? We may attack the problem first as a mathematical question to be solved by the application of the doctrine of chance and probability. As probabilities are weighed and counted, it cannot be maintained that the adaptations which resulted were beyond the pale of the probable. The comparison will be much more to the point, however, if we compare what took place to the throwing of dice in which certain numbers are repeated and certain results

obtained because the dice are loaded. How can the inter-relations of thousands of variations in any species to variations in environment, and to other species, be explained on the basis of mere chance? And we can observe these innumerable inter-lockings connected with every step of advance in evolution. It is only as we rope off a small area and confine ourselves to the changes in one species or in one living form of a species that accidentalism as an explanation is even remotely plausible. Darwin was after all a better observer than a philosophic generalizer on a large scale.

It is very remarkable that, apart from the term variation, most of the other terms employed to describe the development of life imply purpose. Evolution as a term seems to denote not merely succession in time, but rather a constant increase of complexity which must be construed as the hallmark of a tendency toward a great end. It does not necessarily mean the unfolding of the infolded. Natural selection as a process should mean actual choice as an outcome. But how can the outcome of a process of fortuitous variation deserve to be named a selection? Darwin derived his term by likening the process of nature to the artificial method of selection used with pigeons, and he failed to allow in his hypothesis for the fact that the success in reaching the mark set in artificial breeding was due to an enlargement of the factor of intelli-

gent control in the mating. The breeders had watched nature, and because nature had an order and they sat at her feet and came to her assistance they could succeed. Otherwise, their results would have turned out so differently each time in repeated experiments, if the operations of nature were accidentally variable, as to be worthless. When natural selection was put on a par with artificial selection it ceased legitimately and logically to denote a process by which certain forms which were left over after the intermediate links had dropped out, were accidentally left over. The right term to use for such a process would have been the accidental remnant, and this is what Darwin meant to say but does not —in the term natural selection. After all the pains he took he could not get away from a purposive word, although he denied or ignored its purport in his description of the process of evolution. Another term which did fit better into the conception of evolution through chance was struggle for existence. There is seemingly no element of order, no plan apparent in this struggle. But the outcome is the place to look in order to determine whether the struggle can be called blind and unreasoning. When we can look back over a struggle which has finally resulted in a wonderful order and inter-relation of living beings, can that kind of a struggle in the light of its end be justly classified as meaningless, or must it be called purposive? The terms survival of the

fittest and adaptation unquestionably point to an aim and end. Unless survival through fitness and adjustment mean what they say, and thus affirm relationships and not accidental co-existences, they are wrongly applied. But if they are true to the facts of the process, they characterize that process as one which cannot be excluded from a realm of order and purpose.

Let us turn now to the question of the meaning of mimicry in nature. Two kinds of moths, called the Anosia and Basilarchia, may serve us as illustrations. The former is avoided by birds because it is unpalatable, and the latter, although it is palatable, escapes the birds because it looks just like the Anosia. There are many similar cases of protective coloration among insects, birds, and wild fauna. Could both these species, the original and the imitation, spring into being first and then survive as the outcome of a long jumble of accidental changes, or would they have lost out and disappeared in the struggle? Does not the latter supposition seem far more reasonable than the former? How were such wonderful means of protection developed? If it is doubtfully reasonable to suppose that the dovetailing of so many correspondences are the result of chance, where is this reason and purpose which they betray—in impersonal nature or beyond nature and above it? It does not seem possible in the face of this fact of mimicry to

keep on thinking that the evidence of nature is in favor of chance. Another parallel case is the correspondence of the human eye to the eye of the pecten. The two lines of development from which these two arose separated ages preceding their appearance. Why should these two organs be so alike, therefore, unless they were designed to function to a certain common end? Is it possible on the hypothesis of chance to explain occurrences like these and many others of a similar nature? Much additional argument of the same kind can be drawn from comparative anatomy. Similarity of bony structure which is so marked calls upon chance to perform miracles which are unthinkable. For it to be possible to reconstruct a skeleton from a few bones, this whole procedure of the anatomist must rest upon a presupposition of adaptive inter-relations between them. A jaw of a certain curvature implies a cheek bone and a skull of a certain shape. A thigh bone of a certain structure points to a certain style of backbone. All of this inferential reconstruction of animal carcases from one or two bones is possible only upon the basis of an open admission of the principle of purposive functioning.

How shall we account for the presence of instinctive actions in the animal world? If, for example, we take the instinct of sucking in the newly born mammal and note the complicated co-action of different muscles combined in the drawing motion

of the mouth, we find a sharp contrast between it and other similar actions which require practice. Whence comes it that this necessary and useful action is so well adjusted from the start through heredity? Is it the result of an ancestral try an try again if at first you do not succeed policy? Would generations of a hit-or-miss existence continued long enough ever produce any of the many instincts which are functioning right along in the animal world? Success is plainly impossible without an irruption of intelligence, even though we adopt trial and error as the irregular procedure used in place of a system worth the name. Success, when it came, came not because it had been hit upon accidentally, but because life had the sense or reason to seize it and hang on to it for the assistance it could be in the struggle for existence. One of the most remarkable examples of the resourcefulness of the living in contrast to the helplessness of the non-living is the case of the Didinium. Here is a little monocellular form which looks like a mass of undifferentiated jelly. Although this little being has no distinct nervous structure and no brain, only the primitive irritability of protoplasm, it does not let its enemies do as they please with it but shoots out a little dart at them and does it like a soldier taking aim. Such an instinctive protective action almost makes us speak of a mind belonging to micro-organisms. Although nothing in the way of a physical brain is

present, yet such purposive instinctive action takes place. Can we study cases like this and not be moved to infer a purpose and reason in the universe too amazing to be self-made by the beings that show it and, therefore, originating elsewhere? Surely we are face to face with data that arouse a pitch of wonder in us that will send us looking far and wide for the intelligence that produced these results.

It is sometimes urged that the arguments of philosophy for the presence of mind in the world of life rest upon garbled testimony. Are there not hosts of maladjustments and malformations in the world? Are these therefore not purposely neglected and only those factors picked out that make for order and the data overlooked or slighted that bear the earmarks of accident and chance? A fierce storm arises and almost a whole species of birds in migration is destroyed. How many human beings lose their lives annually in accidents of nature or accidents due to contributory negligence on our human part? Pain racks all living forms and death puts an end to them. But after we have weighed all of these facts that seem the stupid work of chance and indifference, are they destructive of the impression that the world "on the whole" is a world of order? They must rather be part of a larger economy than we have yet compassed. Individuals may get lost in the great household of nature, but does life get

lost or will it go on and fulfill its great purpose? Pain must be interpreted, not from the point of view of human sensitiveness, but from the angle of its total meaning as a danger signal for life and its development. We can already see how death removes the decaying forms and opens up the way for other living beings. Except for the passing of the preceding generation, the earth would get all cluttered up, and the struggle for bare subsistence would put all further development out of the question. Man becomes wiser through his mishaps. And thus the great economy of life is seen to be on the whole an economy of order and purpose.

SUMMARY

Our survey of some of the outstanding data of life and its development has strengthened our longing to know, and our expectation of finding out, more concerning the intelligent power above and beyond life. Our studies have now reached the point where we can take the stand that this is a reasonable universe, and that the chapters of life are stages in the unfoldment of a purposive end and the fulfilment of a great aim.

PART II

THE PROBLEMS OF MIND

CHAPTER VI

The Making of Mind

A FEW years ago Professor J. Harvey Robinson wrote a very suggestive book on the "mind in the making." He wrote as a historian and endeavored to trace the growth and expansion of the mind in the course of human development. But prior to the historian the philosopher must have his say concerning the make of the mind. His problem is how to get at the individual mind in man in its generic character first, and then perhaps to determine whether there is a social mind.

Before a history can be written we must have a clear idea of the subject to be historically investigated. For a long time the mind was identified with the phenomena of consciousness. But this view of the mind always ran into difficulties in explaining memory, both in its moment of recollection and its previous period of retention. It was especially in connection with the problem of retention that the trail led below the threshold of consciousness. The researches of psychoanalysis also lead down into a subconscious mind, even if we cannot follow Freud in picturing it as a dungeon of sex desires. Awareness alone is a quite partial and

not at all a full and sufficient characterization of mind. It is its focal center, but mind shades off beyond it into fainter and fainter flutters of consciousness that finally die down and sink below the level of the conscious. Some of the students of psychic research, following F. W. H. Myers, have put in a claim for a supraliminal mind, a mind that in its upward reaches crosses the border into the mystic, the universal, the supraspatial, and the timeless. Certain phenomena occur in telepathy and telekinesis that create a similar probability of the mind's power of ascent above, as well as of descent below, the workaday consciousness. In view of all of this testimony we may call mind the medium of the functioning of intelligence, of feeling, and of action. It is composite in character, with these three marked sides, which may be analyzed and treated separately for study purposes but which never operate except together.

In the early stages of biological progress which began in the middle of the nineteenth century, the effort of the Greek materialists to derive mind from matter was renewed. Mind was spoken of as an epiphenomenon, an after-effect or by-product or echo of matter. But this account of it virtually eliminates mind as a separate entity and could not hold out very long. Such a qualitative difference exists between matter and mind that the derivation of mind from matter puts an impossible strain upon

the scientific imagination. Mind does not move within space and its laws of thinking cannot be subsumed under the laws of matter, even in their biological aspect, without doing violence to some vital properties of the mind. This position was consequently abandoned by the best psychologists. There was a plus to the mind which, it was decided, could not be derived from the most careful physiological analysis of the brain. In fact, Thomson[1] showed that it is the lobes of the brain which are shaped by the thought of man rather than that the thought is an offshoot of the physiological reactions of the gray matter of the brain. The localization of certain functions, such as speech, hearing, movement of the arms, etc., on the switchboard of the brain was for convenience and not absolute, for when certain sections of the brain were injured functions formerly located there received a new switchboard number. While every movement of the mind times up with action on the part of bundles of nerves whose ends are close to each other and form what is known as a synapse, yet these chemical or electrical motions of the nerves and thought are two and not one and the same thing. They are accompaniments but have not been proved to be causes the one of the other in any real sense of causality.

The abandonment of the hypothesis that the

[1] *Brain and Personality.*

mind is an epiphenomenon of matter called for the formation of a new theory. The constant presence together of nerve action and mental functioning, combined with the apparent impossibility of discovering any connecting ties, became the basis of a theory of their parallelism. This theory stakes its all on its inference that mind and matter move simultaneously on paths that run along together without touching each other. It virtually ends all striving after monism and frankly acknowledges a dualistic world. It draws the line between mind and matter definitely and assigns to mind a life and a peculiar origin of its own. Nevertheless, so close a correspondence between the movement of matter and the action of the mind puts its champions on their mettle to explain how or why the two series move so uniformly parallel. It is impossible to work out experimentally these parallel movements in the brain structure and in the mind. Since it demands a correspondence carried to a point of detail which cannot be ascertained, the temptation often recurs to overemphasize the role played by matter and fall back partially upon the hypothesis of epiphenomenalism.

Philosophy in its interpretation of this situation is shut up to two alternatives. Parallelism fits in well with the doctrine of Leibniz that the harmony existing between mind and brain is preëstablished. But this piece of pure speculation failed to call to a

halt the scientific interest which seeks the explanation of problems within the chain of secondary causes without resort to a first cause. Science retorted that this theory simply avoided the difficulty and did not grapple with the problem of demonstrating the actuality of the parallelism at all. The dualism was accepted but not explained, it was abandoned as a subject of scientific investigation by this recourse to a religious belief in a creative beginning. The other alternative, and the one that seemed more acceptable, came through the philosophy of Spinoza, who made thought and extension the two humanly found attributes of absolute substance, which he called God. Thought and extension as attributes of the one substance is a postulate no more entitled to be classed as scientific than the frictionless ether of modern physics. Some of his successors were in favor, therefore, of eliminating Spinoza's identification of substance with God, and making it simply a working postulate like that of a frictionless ether. But sooner or later this universal is forced to depart from the apparently contradictory qualities conferred upon it as a logical abstraction, and become one or the other, either material or ideal.

The idealistic solution of this problem frankly merges matter and mind and chooses mind as the only reality. It reminds us that all our knowledge is dependent upon sensation, perception, concep-

tion, and reflection. This led, first of all, to the Berkeleyian psychological idealism. Things and thoughts are simply two of a kind, and the notion that the one are impressions from without and the other arise within is a mistake. But the outcome of this type of idealism, which denies substance to matter while it affirms substance for the mind, is the skepticism of Hume. The analysis that reaches conclusions which destroy the world without dissolves the world within into a procession of impressions without an ego to claim their ownership. The German logical idealism of Fichte and Hegel avoids these pitfalls of skepticism, but it reduces the world to a unity which finally becomes impersonal and finds the jurisdiction of consciousness confined to the human mind. In its English form, as advocated by Bradley, the universal is logical non-contradiction, and in the American form after Royce it is interpreted as absolute meaning. None of these conjectures gets us anywhere. Idealism in order to maintain the all-inclusiveness of mind is simply forced to empty the evidence for matter of all content and meaning and to sink everything into a great abstract unity, which it names the absolute. Thus it loses itself in words and in colorless logical abstraction and fails to get in touch with the concrete aspects of the mind in its actual functioning. It simply accepts mind as reason and builds its hypothesis by the use of reason alone, for it really

disregards both feeling and will in their importance and value for the mind as a whole. We must have recourse to some other supposition in order to come closer to the problem of the making of the mind in its concrete and composite nature. An abstract universal mind reduced to a mere organ of logical process is interesting enough as a speculative structure, but it does not serve to interpret the immediate realities of the life of the mind usefully.

The latest modern effort to do this work of interpretation is in direct opposition to the idealistic solution. It takes the position that all there is to mind is behavior, eliminates consciousness as a distinctive fact, and reduced sensation to nerve-action. According to it, qualitatively every thought and every reflection is of the same nature as mechanical movement. There are several types of behaviorist psychology, tapering from the outspoken, consistent form given it by Watson down to the mediating and weaker forms found in the average, elementary college textbook of psychology. The same arguments used to overthrow epiphenmonenalism also apply in the case of behaviorism. McDougall of Harvard has given much attention to the critical examination of behaviorism. In observing the action of animals from the lowest types upward to mammals and to man he discovered that action as such does not exist apart from elements of reason whereas the whole subject of instinctive mental

functioning is ignored by the behaviorists. Roback and Pratt add contributions of their own to these arguments. Behaviorism has no adequate explanation for the higher elements in human thinking. The creative thought present in art and literature, the inventive genius, the production of myth and language in human history, these are all facts which a psychology of behavior cannot justly deal with. The fair success of the modern apparatus for the measurement of intelligence has been cited as a proof of the contentions of behaviorism. But all that measurement discloses is the greater or lesser aptness of different minds to remember promptly and to reason quickly. It does not present any exhaustive evidence as to the nature of the intelligence making these responses. They mean no more than that certain questions have been devised to cope with limited, practical demands of different sorts. Their results form a clue to certain abilities and capacities in the functioning of the mind, but not of its whole scope and entire make-up.

A number of other thinkers have reached the conclusion that interaction of mind and body is the best explanation. When we carefully observe our mental experiences we find that bodily conditions are more or less closely allied to mental. The whole tone of our mind and the color of our consciousness is affected by our general bodily condition. We may struggle against this intrusion of the bodily

constitution into our mental frame, but it cannot be kept out. Elation or depression of mind keep step with the weaker or stronger pressure exerted by bodily health or sickness. Our temperaments are not solely mentally determined; they also have a bodily foundation. The dispositions have their instinctive bodily counterparts. All sensations begin physiologically. We cannot fully understand sight, hearing, taste, touch, without first understanding the nervous structure of the different senses.

On the other hand, our bodies can be directly affected through our minds. The theory of Lange and James that we weep first and then become sorry does not stand the test of observation. The evidence shows rather that we feel sorry and then weep. We may laugh because we have been tickled, but we also laugh because our risibilities are affected by a bit of humor or wit. Thinking may intensify a bodily pain or decrease it. Mental attitude cannot change us organically, but it can and does change the characteristics of our nervous functioning. A state of determination and concentration in the mind reverberates through our whole body. A good joyous spirit is an aid to health. A sour disposition hinders digestion. After all of these facts have been evaluated it seems safe to assert that the mind acts downward upon the body and the body acts upward upon the mind. But all that we know

is a succession or simultaneity of phenomena. It is impossible to trace a definite causal connection. The support of any causal hypothesis of the relation of body and mind is very precarious, for it infers more from the observations and psychological experiments than is justified. Interaction can be affirmed as a statement of fact but cannot become an established logical, causal theory.

All the different conjectures thus far noted as to the origin and constitution of the mind have not led us to any fully satisfactory position. Mind still remains unique. If we pass now from the hypotheses of science to the speculations of religion we may infer that the source of mind is a more than human mind. After a way has been argued up to the first cause we can find some rest in assuming that this superior executive intelligence is the fountainhead of our own. As we take our whole mind into consideration, with its feelings, emotions, passions, determinations, and volitions, the problem arises whether we are not justified in going beyond the tracing of immediate connections and ascribing to the first cause the human qualities of intelligence, purpose, and executive capacity, without reducing that first cause to the human level. Is this speculation through analogy to be rejected on the score that its anthropomorphism is too extreme, or is it also a justifiable inference from the indications of reason and power in the submental spheres of exist-

ence? There seems to be a real relation too between the feelings and emotions and the whole problem of the objectivity of the beautiful in the universe. Light is thrown on the meaning of the will and its isolation ended, if we find a connecting link between its originative quality in man and the energy of the universe. If the human will cannot be classified as one more exhibit of mere unintelligent energy, it is speculatively not wrong to assume a will back of the energy present in the environment, and this assumption can be made without sinking the effect in the cause. But this whole business of the tracing of the human mind to an ultimate possible source affords no explanation of its development from infancy to old age. The speculative problem of the origin of the mind must not obscure the worth of the observations harvested from the growth of the mind in time.

When we begin the study of the first appearances of mind in childhood we must reckon with a set of inherited tendencies. There are human tendencies common to us all arising from instincts, e.g. self-preservation, acquisitiveness, combativeness, etc. Different temperamental qualities are combined with these. Then within families there are certain inherited tracts and aptitudes of mind which gradually show their mettle. From this outfit through experience and contact with the customs of society certain ideas and habits develop. Our dispositions

are modified and our wills are directed. Our feelings and emotions are cultivated and our passions become subject to control and are limited. Thus the growth of mind proceeds from the early gathering of impressions, through the period of constant questions, the age of fancies and fairies, the period of dreams and the storm and stress of adolescence, up to the maturing of feelings, emotions, and actions of middle life and the end in the fixed, calmer, quieter atmosphere of ripe old age. Our intellect grows from the kindergarten learning of objects, a few colors and figures, to the finding of our ego, from personalizations, into the ever-fuller appreciation of reasoned truth. This whole process has now been carefully observed and a wealth of facts gathered by the child psychologists, the students of adolescence and the fully matured mind. And furthermore, the confessions of great minds set down in their biographies and autobiographies and the conjectures and psychological analyses of novelists all give us abundant material from which to trace the expansion of the mind.

But in the course of this task the question arises whether the story of the individual mind can be rightly told without taking the social mind into consideration. At first we are inclined to reject the existence of a social mind out of hand because we are so accustomed to think of mind only in connection with individual bodies and as functioning

through the brains of individuals. There are thinkers who hold that the social mind is a fiction. But if we give due weight to the fact that there exist common opinions, ideas, truths, common attitudes, common feelings and actions, common determinations and volitions, we shall not be so quick to dismiss a social mind from our calculations. Are these common mental phenomena simply a sum in addition of fragments from indiviudal minds, or are they social attitudes in individual minds? Certainly a great part of our education consists in training to fill an individual niche in the life of various groups. We inherit traditions of a past society, its history and culture. A constant infiltration of social thinking goes on in our lives. The mind of society is often moved by great emotions as exhibited not only in the mob-feeling of the crowd, but also in great common sentiments like those of home, country, and religion. We cannot deny that social current affects us profoundly. Individual leadership may give a fresh set to the common mind, but only as it gets the upper hand of the social directions of thinking, feeling, and willing among men. New ideas originate with individuals, but they must become socialized in order to live and thrive. The great social forms of family, church, and state would be impossible of continuance without a social mind. And there are other social contacts which equally presuppose a social psychology.

SUMMARY

A study of the mind leads the way to much additional evidence of the presence of reason in the universe. Energy, moreover, appears no longer as blind, heedless energy. There arise the new problems involved in pairing together intelligence and will. Still another new factor of a distinctive kind is the acquaintance formed with feeling and emotion, although traces of them had already appeared in the animal world. Do not all this fresh data stimulate us to branch out in our speculations beyond the human mind, individual and social, in search of some great over-mind which includes in its embrace all and more than the highest intelligence seen by us to be present in nature, man and society? We cannot rest caged within the limits of the observer; the human mind insists upon formulating some kind of an answer to the question whence it finally came.

CHAPTER VII

The Problem of Personality

THE study of the mind and its development necessarily brings us face to face with the problem of personality. It would be difficult, if not impossible, to discuss the mind and stop short of dealing with the question: What is human personality? The common understanding of the term personality identifies it with the self or with individuality. The current definition of personality makes it consist in the unity of self-consciousness and self-determination. The error connected with this position lies in the stress which it lays on the self and its implication that personality is one and the same as the ego naturally given to man. But if we pause to reconsider only a moment we shall be led to see that this identification of personality and individuality will not withstand closer investigation and analysis. There is a very distinct character to the self and to individuality.

By its very nature the individual or self is the centered ego with its own character and life. There is no such closed circuit denoted by the idea of personality. In fact, personality implies overtures toward others and contacts beyond the self. Indi-

viduality is a matter of easy observation, for individuation is present in all nature. We have become so accustomed to note the generic qualities in things and to think only of the type that we fail to observe many individual qualities that form part of the concrete reality of objects. A generic classification based on the different geometrical forms found in the different minerals is part and parcel of mineralogy. But frequently specimens are found which are not absolutely correct copies of the pattern of crystallization set for them. One piece of rock differs in pattern of crystallization from another piece of the same rock; there are variations observable from the prescribed design. In plant life, there is an individuated difference between plant and plant within a species. While this is more evident the higher the order, yet it is observable also in the lowest types. The species of rose named Marechal Neill does not allow for the differences between individual roses on the same Marechal Neill rose bush. The principle of individuation becomes more marked and prominent in the animal world. It is pronounced enough especially in the higher mammals for us to see that one deer differs in many slight respects from another. In man's case the principle of individuation is given even more extended scope.

The traits individual to any man are more marked than his family or racial qualities. This

fact of individuality which is concrete and real, must be reckoned with. Even two persons with the same home, the same surroundings, and the same ancestry in the same country are not just alike. Two persons may try to say and do the same thing, but it is never exactly the same. Differences in our bodily appearance are present in larger variety, and the same statement holds for our mental life. Individuality is therefore a concrete fact which is easily verifiable. But a step of inference then takes us to a metaphysical entity back of individuality or the self in man. This speculative assumption seems justified once the mind is acknowledged to be unique. In any hypothesis that the world and man are devoid of real mentality there can be no place for a real metaphysical ego or self. But since, as has been shown, we cannot reduce the mind to a form or function of matter, it is allowable to argue for the existence of an actual unity in man, of which the course of nature below him seems prophetic. This unity reports itself in the consciousness of self as we reflect upon ourselves. While David Hume could not find within himself anything but fleeting impressions and ideas, most of us are aware of a self and do not stop with mere thoughts, feelings, and volitions, but go on to a thinker, a feeler, and a willer. We find difficulty in getting rid of our acquaintance with this ego. The psychologist may be content to note phe-

nomena only, and be able to put his finger on, as James said, merely a warm feeling that is named self. But the philosopher must go further and draw his inferences on the basis of the self-feelings, and reach the conclusion that these self-feelings are signposts of an actual, really existent, though mysterious, self or ego.

Personality, on the other hand, is the result created by our mental life as it develops. The foundations of personality are laid by our determinings. An organizing power over our own being inheres in the choices and selections which we determine to accept and follow. The lines of direction which our determinations begin to take become fixed into habits. We make our character through acts of judgment and will. When confronted with two or several possibilities of choice, that one is apt to be selected which past determinations have tended to make dominant. In the beginning, our determinings of course follow either the direction of others, customs and ideas of society and accepted traditional attitudes, and only gradually do we hew out a new path for ourselves. Whether we begin a new course of action or repeat old ones, personality is constantly forming and character is in the making.

Let us consider some instances. I have been taught to be economical and past experiences have shown me to be careful in my expenditures. I am now confronted, we will say, by an appeal to give

generously to an endowment campaign of my Alma Mater. The chances are that I shall refuse or give very little unless there is another line of choices in my life in certain directions of liberality that is more than a match for this trait of economy. The final trend of my action is likely to be in the direction rendered strongest in me through past determinations. But a new course may even be taken that flies in the face of the past if a sufficient, strong, new motive is aroused in me. Such a sharp break with the past is required to get a movement started for the abolition of slavery, or the evils of strong drink, individual and social. It is in this analysis of men in respect to how determinations are likely to continue along fixed lines or can be induced to strike out into new paths that we see the making of personality. Creative work upon our personalities is always going on within us, for we cannot escape the reflex influence of our self-determinations. The organized unified result is what we ought to call personality in distinction from individuality. Personality is the result created by our choices and actions; individuality is the ego with its peculiarities and separate qualities given us to start with.

A remarkable confirmation of this doctrine that our personalities are in the making and are not fixed at the start is provided by the psychological analysis of the alterations of personality. Cases are on record where a single personality has split up into

several, which then alternate with one another in the saddle. The most famous early case is that of the French girl known as Léonie.[1] She alternated between five distinct personalities from time to time, and they each showed separate distinctive directions and attitudes. Dr. Prince has reported on several modern instances where there was only the change from one personality to a second. These instances of abnormality have always created difficulty for the champions of a fixed personality. They make it plain that experiences may gather around a new center. The diversities in the different sets of choices show that more than one style of personality is possible to the same ego. The denial that creative work is always being done upon our personality shifts the problem raised by a personality that splits up, as the term shows, back to the self. If it is possbile to turn a divided personality into a single consistent one—and this does not deny the metaphysical ego—then it is clear that the abnormal making of several personalities from a single original does not destroy the metaphysical ego. If we disbelieve in the making of personality we must ascribe the abnormality of multiple personality to a destruction of the self.

The psychological method which seeks to correct abnormalities of personality through fusing the various differing component personalities into one

[1] James, *Psychology*, I, pp. 207, 387 ff.

can be justified only on the assumption that personality is the product of our choices. The original ego is the material given us to start with and our personalities are what we make of it in and through our experiences. It is the given spiritual raw material that we shape into personality. We take our inherited selves and shape them into more grown-up editions of themselves.

In the work of organizing personality, we dare not omit the concurrence of other factors with our choices and determinations. As our growth in personality proceeds, a great influence is exercised upon our progress by our mental attitudes. Our intelligence is by no means to be excluded from the process. We either accept from the past or devise for ourselves a supply of ideals to draw us on and also control our thoughts about ourselves. The organizing work of volition follows a plan formed in our mind. We may not always definitely recognize an intellectual element as present in our determinations, but it is always there. When I argue with myself whether I shall choose as my vocation one of the professions, certain facts and problems have to be taken into consideration. Usually men do not make blind choices or follow haphazardly the drift of circumstances. The intellect takes a more or less prominent part in our decisions. Personality is not the work of mere will apart from our reason and intellect. While at times men over-

stress the part which the intellect plays, yet more frequently they undervalue its place. Choices which are made with the intellect functioning at its minimum are not apt to lead to the best personality. And yet reason is not the only confederate required to lead us to creative decision and action.

The third element that must enter into the making of personality is feeling in the wide sense inclusive of emotions and sentiments. Our whole being is drawn into action in the process of arriving at a real development of personality. Feelings, sentiments, and emotions supply the drive in the formation of the character that expresses personality. A mere cold calculation of intellect, be it ever so accurate, has no power to translate itself into a creative result. The will must have back of it, at all times, the urge of feeling. In a certain sense will is feeling put into action. While careful analysis must distinguish between will and feeling, nevertheless there is a greater unity in quality between them than between either of them and the intellect. Our mind is a total unit and in this unit feeling plays a large part. It is our most intimate characteristic. Feeling imparts to our choices their distinctive quality and color. Feeling is not only the urge added to the active tug of our volitions; it is that which intensifies the whole process and brings it close home to us. Our intellections are made forceful by it and glory and beauty are added to our

ideals. On the other hand, it may also degenerate into mere passion and degrade us and turn us aside from our real development. A power for good though it be, if abused, it becomes a power for evil. Its drive may turn into an onrush that disregards the clear insight of reason. It is necessary, therefore, to keep the essential force of feeling rightly balanced and under good control. We dare not let it hurry us into base action, but we must give in to it whole-heartedly when the intellect has shown the clear and right way.

An important factor in the understanding of personality is the major part played by its relations toward others. While manhood is expanding for it, the growth so obtained is not secured by a policy of selfish isolation. Contacts with others are real factors in the making of true personality. There is a busy Bureau of Foreign Affairs connected with its developing life. A growing personality impinges upon the lives of others and in return is played upon by them. It is never content to remain within itself. Personality is not identical with self-culture. To the degree that Goethe heartlessly laid all life under tribute for his own aggrandizement he was murdering his own best possibilities. Personality of really high quality lives not for itself nor within itself. The culture of the self is a reflex result of wide and unselfish contacts with life. In the wholesale commerce of many relations lie the great chances

of development for personality. As we lose our lives of self we gain them again in a personality that mirrors all life and the whole world. The functioning of personality, if it were only the functioning of a static self, would be limited, but as it is the enlargement of the capacities of a self growing through its increasing contacts with its surroundings it has endless possibilities. In it and in its implications we may find the right approach to the synthetic unity which shall best solve the problems of science, art, and history—and, in short, envisage all the interests and possibilities of life.

SUMMARY

In personality we have found a trail which leads us further than biology into the scope of the whole mind. We find a unity with capacities for development in our self and out of it that point far beyond us. There is a prophecy of eternity in the prospect of its endless growth, which leads us almost into the presence of the Deity, in whom what is growth for us is infinite attainment. Does not the path it takes point not below but above itself?

CHAPTER VIII

The Sphere of Society

ON the view just taken of the problem of personality the question: What is society and its relation to personality? cannot be set aside. The very fact that personality is so widely hospitable in its relations with others should make us eager to investigate the structure and functions of society.

Society may be defined as men in their togetherness. Sociology studies men in their various kinds of group relations. Are these relations mere by-products of individual existence or do they exist in their own separate right? The day has long passed since Hobbes' and Rousseau's assertion that man in a state of nature is a rampant individualist with a chip on his shoulder received any serious attention, except as an episode in the history of thought. We do not now believe that primeval men met together in an assembly to form society and established a social contract to end the state of war of every man against his neighbor. The eighteenth-century conception of man, which looked upon him solely as an individualist and regarded all his social forms as acquired characteristics, has given place to the notion of man as primarily a social being. This is

a return to the position of Aristotle, who called man a political animal. His social capacity is supposed to be as old as man. Apparently there never was a time when the race of men lived a hermit life.

The speculation most favored at present claims that man began social life in a low tribal state. His condition then is supposed to have been on a level but little above the life of an animal group. There is no direct evidence that this was the case; no clear basis of fact. Its main dependence is upon the supposition of an unbroken evolution; it is the outcome of a hypothesis that leans upon biological rather than upon historical evidence. It also holds that the present wild tribes are cases of arrested development of this low origin, and that what is found among them is a reproduction of primitive conditions. There is no real weight given to the possibility of degeneration, although instances of such a process can be found among groups national in size within historical times. The belief that the lower tribes are remnants and not reversals has become common, backed as it is by the conquest which the prevailing conception of evolution has made since the middle of the nineteenth century. This hypothesis does not rest upon unmistakable evidence, but is one more among many other examples of the tendency in the saddle to unify everything under the ruling hypothesis of the day. It is there-

fore purely speculative in character and owes its vogue to the trend of thought dominant for the moment, which desires a monistic simplification of the world that shall be consistent with the widely accepted standpoint that society as well as nature moves along an upward path. There is no evidence against the existence of the family from the beginning. No proof has been unearthed for promiscuity among primitive tribes. The family may still be soundly assumed to be the original unit and the source of the growth of society as it passes from the smallest of groups through the patriarchal stage to the tribal form. Tribes finally combine, through a fusion of language, custom, tradition, and religion to form nations. Gradually, in the nation, different strains of tribal blood commingle in a common stock.

However we settle the problem of the source of society, the question remains, What are the forces active in its development? Leslie Stephen compares society to a living organism. He discusses its tissue and the good and bad hygiene at the bottom of its health or sickness. The point of view of this school is altogether physical and biological. No one doubts that physical and biological factors play a large part in complex social as in the relatively more simple individual life. But when every possible allowance is made for them, does it follow that the nature and progress of society have been fully

explained? Are social connections subject to no other laws than those of biology? No sociologist is willing today to commit himself to this hypothesis, although some of them still overemphasize certain analogies between animal and human groups.

In contrast to the biological sociologist, others have taken the attitude that environmental forces are responsible for the make-up of any given society. The first outstanding advocate of this position was Buckle, in his *History of Civilization.* Sharply differing from the idealistic view taken by Guizot in his work bearing the same title, Buckle attempted to show how materially the climate, soil, and other natural features of a country affect a people and determine the character of their ideals, outlook, culture, and even religion. Simon Patten, one of the followers of Buckle, endeavored to demonstrate that the key to the English thought of the nineteenth century could be found in the Corn Laws. That sort of reasoning is likely to end up with a society, which is the manufactured product of mechanical forces. Fatalism as a theory of the destiny of the individual has sometimes become social fatalism or necessitarianism. This whole speculation concerning the forces responsible for the making of society stands and falls with the proof offered that the individual is made by such forces. If this can be shown to be impossible, it

will be equally impossible fully to explain society on the naturalistic or mechanistic basis.

Another tendency at present is to slight the individual too much as compared with the importance given to the social complex. The oscillation of the pendulum to individualism, still so evident in the Declaration of Independence, has swung to the other extreme. There are sociologists who do not class the individual with his characteristics and rights, on a par with society, but sink him out of sight in society. There are many facts of heredity and environment that can be cited in support of this position. Traditions in which men grow up, social customs and habits, family demands, consciousness of class, national sentiments, racial feeling—all of these seem to make man in their image and submerge him as an individual. And yet man has it in his power to turn heredity into better channels through ideals and aspirations, and change his environment for the better. He has a fighting chance to overcome or limit the influences of family, class, nation, and race. We must not lay everything to environment and make man a blind victim of social conditions and forces.

There are three main social institutions in all history, the family, the state, and the church. No other group forms are so constant and universal. In the case of the family either polygamy, many wives to one man, or polyandry, many men to one wife,

was its early form. But out of these early experiments monogamy gradually won its place as the best form of family. Today a very serious problem confronts the family as a social institution. It seems to be disintegrating, especially in the United States, through the enormous and constant increase of divorce. Many features of present life are prejudicial to it in industry and commercialized pleasure. Is society bent on unmaking itself and destroying its earliest and most fundamental form? This is the one of the most pressing practical problems before society today. Its parallel is the youth movement intent on abrogating many of the customary relations of the younger people to the older, which in the past had their foundation in the family.

The problem of the state is the problem of ways and means of satisfying the increasing demands of democracy. The world over old forms of government and ancient traditions that rested either upon monarchy or aristocracy are crumbling. Where will it all end? The large hand which the individual demands that the state shall let him play in his own life seems to threaten a state of anarchy. Then, too, majority rule, often of many not fit, is making the state very unstable. But alongside of these inroads upon the state—the inroads of extreme democracy—is the increasing tide of socialization. The very same group that wants more leeway for

itself from the state is demanding that the state ought to take over the control of more of life. While this demand is made in the interest of special classes and groups, the whole population would be affected. Perhaps this inconsistent mixture of individualism and socialization through the state will peter out because of its inherent contradictions. But the question is a serious one, Whither is the state being hurried along by the great unthinking multitude?

The church, or religion in its social form that has existed everywhere in all history, exhibits to the world the contradictory agencies of high control and extreme private judgment by the many. There is a strong tendency manifest everywhere to press tolerance to the utmost and to work for a unity of faiths, with an utter disregard of past creed, cult, and conduct. This is the work of sentiment and feeling, but many afterward endeavor to justify it through argument. Shall there be unification of a kind which almost identifies religion with humanity? There is a changing order coming on, but whether it will be better or worse than the present no one knows. Great masses of our people, young and old, are beyond the pale of any type of religious organization.

There are many other social contacts open to men in addition to the three prominent social forms, family, state, and church. They may associate in

the interest of science and art, of charity and philanthropy, of political advancement or of social reform, and many like concerns. But the most perplexing social complex is that created by the necessity of making a living. The problems of commerce and industry, the relations of employer and employee, the adjustment of capital and labor—these are the questions that bulk large in society today. The attitude of men toward each other in business is frequently not such as to further the well-being of society. There is a competition which does not stop at ruthlessness. The relations between men within the same trade or profession are often not conducive to their common well-beings. The broad, general contacts between labor and capital are not always based upon mutual trust, confidence, and fairness, but are ruled by the tactics of conflict and war. Sociology thus far has failed to supply adequate protection against these dangers in the life of society. The economic conflict has crossed over into the political domain, and blocs are formed and lobbies maintained which seek the selfish advantage of certain groups regardless of whether these demands are just and socially constructive. What is lacking is a correct fundamental conception of the inner workings of society which would make it plain that no advantages that injure the total life of men in society ever turn out to be a real gain to the parties immediately concerned.

It is interesting, for instance, to note how a group fighting for an increase of wages fails to consider that rises in prices keep lock-step with rises in wages. In consequence, the recoil of the rise of prices actually discounts, for the group which obtains an increased wage, the advantage of the increase. Agitators do not give people a fair view because they do not tell them the whole story of the actual operation of certain courses of action in society. The great need is clearer ideas of the inevitable consequences flowing from inner relationships of the social complex that are not apparent on the surface.

The final word in regard to the problems of society does not lie in the direction of accepting existing conditions as the result of forces which society cannot control. There must be proper realization of the fact of kinship out of which grow many connections. But kinship by itself is no explanation of the making of society. Doing the work of the world binds men together. But this interest also gets us no nearer the real basis of society. Sociologists have come to recognize that the work of integration in society is really the work of psychical factors. Some of them hold that folkways, certain socially inherited group ways of thinking, feeling, and acting, condition all life. It cannot be denied that the feelings and sentiments with the related ideas and volitions associated with social traditions are powerful. But is the social

fabric solely what these inheritances make it, or can a creative upbuilding of society be obtained from fresh psychic functionings of this kind?

After going the round of the alternatives, the conclusion is hard to escape that the integration of society comes about through the growth of personality as its core. The objection is sometimes raised that there is no personality in, or of, or to, the social complex. This objection rests upon the erroneous identification of individuality and personality, which was discussed above. Since we there discovered a basis of discrimination between them, however, we are not debarred from applying the term personality to certain social facts. Nor does it follow that such an application necessarily leads us into the logical idealism of Hegel. We do not mean unduly to objectify society and amalgamate it with abstract spirit, but the fact remains that certain functionings are observable in society that are like the processes by which personality is built up in the individual. They are as follows:

First, common actions take place in all social forms that are not a sum in addition of mere individual volitions. In the family that has a real family life, working and acting together goes on in the interest of the family. The state has its group problems and state determinations and sets itself to perform acts that are truly collective and psychologically constructive. Such state acts even in rep-

resentative government are not the sum of individual desires and purposes. To the degree that they become individualized they cease to be real state action, action of a common nature and import. The church engages in common tasks and carries them on as a social whole. It reaches decisions that are not individual but common determinations. This same psychological fact is characteristic of all forms of association, of societies of every type formed for business, philanthropy, or pleasure. No one can fail to observe some of these composite determinations and actions.

Secondly, society, as well as the individual, has its ideas and thoughts. These socially shared ideas have back of them traditions, a history, and a civilization. But as intellectual elements they play a kindred part in organized actions and composite determinations to that played by them in the decisions and conduct of the individual. Each family has its past, its story of its ancestors, and its aspirations of kinship and family character. The state is bound in its actions even more than is the family by the ideals upon which it rests and the course of its intellectual past. We cannot understand any vital decision and action of the state apart from the past workings of its form of government and all the conceptions which have gone into its making. The church does not reconstitute itself anew in every act, but its history and its creed, whether ex-

pressed or implied, enter into the business of forming its present decisions. Men today, in their efforts to unify churches, realize more and more that mere coöperation in life and work is not enough and must ultimately lead to the question of a common platform of faith. Ideas play an equivalent part in the determinations of other social bodies in regard to their actions. Nowhere can we find an absence of the element of intellect.

Thirdly, the last element in the psychological functioning of society is the element of feeling or emotion. All social life is shot through with great sentiments that rest upon feelings and emotions. The family as the institution par excellence of affection is most deeply moved by feeling and emotion. The relation of parents to children, of children to parents, of man to wife and wife to man, are founded upon great affective currents of life. The state must become idealized in the national mind in order to maintain patriotism at full strength; its leaders must not be regarded only from the angle of a cold, critical examination. The idealization of the state is a matter of sentiment. The appeal of the state to men is not unemotional nor are its acts. The church, as the fostering guardian of the religious attitude, can never escape from the meshes of feeling and emotion. As great as is the part that emotion plays in all religion, so great should be the share that emotion plays in the life of the church.

Other social contacts also produce and are characterized by the presence of great feelings of attachment and of loyalty. Business men and laboring men look upon their trade groups with special warmth of feeling and cling to certain sentiments through the functioning of the social emotion of their group. No social complex is free from this factor.

The presence and active functioning of these three elements in society justify the claim that the basis of society is also personality. Out of common acts, ideas, and feelings all social forms build up a unitary existence. This unitary existence, constitutionally speaking, we call personality. We draw no metaphysical inference in regard to society from this fact. Nevertheless, on it rests the welfare of society, and the more men realize this and accept the upbuilding of personality to which full participation in the various forms of social life will lead them, the more society will find its goal.

SUMMARY

The elements of personality in the social life strengthen the indications of its ultimate importance implied in individual personality. It looks beyond its own life for its creative development. Perhaps, indeed, society points to a social God after whom the whole family on earth and heaven is named. Is

there not society in God?[1] Does God fulfil in infinite completion all the promise contained in personality as it is being shaped now and here? Does He reciprocate as the mind of society tends toward Him and furnish its highest impetus to it? These are questions which religion must answer. If it can reply adequately, then it is just to assume that the growth of society into personality calls for God in explanation.

[1] Fairbain, *The Place of Christ in Modern Theology*, p. 394, well says, following Augustine: "God is love; but love is social, can as little live in solitude as man can breathe in a vacuum. In order to its being there must be a subject bestowing love, and an object, rejoicing in the bestowment; without the active forthgoing and the passive reflection and the return it could not be, for absolute and simple loneliness of being would be a state of complete lovelessness."

CHAPTER IX

The Lead of Language

AMONG the various products of society none is more fundamental to its existence and continuance than language. Any philosophical consideration of society as a psychological datum cannot overlook the production of language. Expression is a necessity of the mind, both on the part of society and of the individual. But the individual would not use language unless the impulse to the expression of mind in language was brought about through the need of communication. There have been thinkers who have endeavored to sever mind and language. They tell us that thought does not have to have a body of language to give it shape and form. But in our actual concrete experience we cannot well disconnect language from thought. No matter what the sound or language-sign, it implies that something is seeking to be said. Everything that thus gets communicated derives its force and meaning from the thought or feeling or volition behind it, i.e. its inner value. We cannot really understand language unless we study the mind using it. Apart from the mind language would be idle sound and fury. The urge to communicate that

originated language among men, and the functionings of language in society and through individuals, are among the most necessary preliminaries to the understanding and evaluation of language. We must know how language is born to understand whither it leads.

One of the most interesting studies is to observe how the office of communication gets performed in the animal world prior to human language.[1] Signs with definite meanings are in use in the life of such remarkable groups as ants and bees. The only question is whether their close social life is the result of social instinct guiding each individual along the road that leads to the community interest, or whether it is due to some very primitive form of contact and communication. The latter seems present, even if we give full value to the former. As we rise in the scale, before there is any communication through sounds, cries, and songs, silent signs are in use that convey messages of fear or danger,

[1] "Language has had an interesting history. To begin with, among animals, the use of the voice was to utter a sex call. That is the only use in Amphibians. Among reptiles it broadens a little; the young crocodile pipes to its mother, the snake's hiss is a danger signal. Among birds the use of the voice as a means of expressing and exciting love rises to a climax, but there is often a call from parent to offspring and from offspring to parent, there are danger signals, and there are sometimes half a dozen or more sounds. In Mammals the voice becomes even more dissociated from sex, and even more a social instrument." (J. Arthur Thomson, *What Is Man?* p. 48.)

hunger or love. Language itself, so argue some thinkers, is the result of these gestures. There is much of symbol in language in spoken and written form. Prior to any logical relation of subject and predicate, communication is conveyed by signs of feeling or calls to action. It is not necessary to wait for the rise and development of the concept to have some form of communication. The justification of this explanation of language rests upon testimony as to the sounds in use among the animals below man. There are herds or societies of fairly intelligent animals, like wolves, monkeys, horses, cranes and parrots, which are in touch with each other and maintain community contacts. A variety of demands for protection or for food are conveyed up and down the line, through significant sounds. Where there are only pairs or small groups, sounds as signs are equally in evidence. The lion roars in hunger or danger. The coyote sends forth its call for aid to its mate in getting prey. The thrush sings its mellifluous love song to its chosen companion. The varying and beautiful trills of the lark, the nightingale, and other songsters, the cry of the plover or the bittern—all are calls as well that possess communicative value as signs with a meaning. When men began to speak, how various where the sounds hit upon by them from the click of the African to the liquids, mutes, and vowels of

our civilized tongues! But by them all something is signified and gets said.

After the relation of language to the code of signs among animals has been fully explored, the questions still remain as to its immediate source in the case of mankind and whither it tends. There has been a supposition entertained that the peculiar sounds of which language is composed arose through the joy of playing with sound. The little child does not simply imitate the words it hears but invents a jargon of its own. This does not seem due merely to the difficulty in early childhood of repeating the combination of sounds heard, but rather to be a creative experiment with syllables that delight. So words in early tongues and the roots from which they spring have been supposed to be onomatopoetic. The charm to the ear of certain combinations of sounds would then lead to their use as words. But of course no hypothesis of the part that sound plays in language formation dares to omit the other part, namely, the role of sense. In the history of modern philological speculation two names are prominent. They are those of Max Mueller and Dwight Whitney. Max Mueller, following Schleicher, conceives of language largely as a physical science, but Whitney regards language as a human institution growing out of the necessity of mutual understanding.

While we are treading upon speculative ground

in tracing the origin of language, there is more certainty to reward us in the history of language. We are able today to distinguish definitely at least two great language families. The first is the Aryan to which belong in early times the Sanscrit, the old Persian, the Hittite; later, the classical languages, Greek and Latin; in modern times, the Romance group of French, Spanish, Portugese, and Italian, largely influenced by the classical Latin; and finally the Teutonic and Anglo-Saxon groups. The second great family is the Semitic. It includes Hebrew, Aramaic, Syriac, Babylonian, Assyrian, Arabic. We are not yet able to group together any other large families in this satisfactory way. Right in the midst of the great classified families occurs Gaelic, Cymric, Basque, Ugro Finnish, and other tongues not strictly classifiable. There is a relation between Chinese and Japanese, but the family likeness is not marked. Many are the languages of India, all more or less distantly related. The languages of the North American Indians, of the Asiatic and African tribes are not as yet strictly defined. There is much research still to be carried on, but even where research has been begun, no actual relationship has been established. One fact, however, is to be noted, namely, that the language spoken by any group is not always indigenous but may sometimes be borrowed. If there has been intercourse with other groups, new forms and

words of other languages find their way in. Anthropological groups like the Nordic or the Alpine, although they have common physical features, may have very different languages. The possession of a specific language is the result of a process of history and in many cases it can be traced.

An important fact about language to be noted is that it is a growth. It never remains a static repetition of itself. In languages where literature and the standard usage of a certain leadership exist, there is some arrest and slowing down in changes of language. But even then new words, forms, and usages arise. The people in conversation coin new expressive words that for a time are outlawed. But at last some of the tabooed words and slang expressions are adopted as good usage into the written language. New discoveries and inventions create a need for new terms; the development of science and art demands more exact counters; and thus, everywhere, even among civilized people, language changes. Where there is no written language, not even this relative stability obtains. The tongues of wild tribes are in continuous flux. It is very necessary to remember these facts, for they show that language is a product of mind. Where, as among wild tribes, the mind lives, for the most part, in the immediate world of sense, although it has its mysteries and religions, the changeableness of life is repeated in the turns of language. Where

civilization and culture create normalities and standards, the rate of change is reduced, but still dialects live on and there is no complete stoppage of the living process even though it is now under partial control.

If as history proves, language cannot be measured by the rules of the grammarian, still it is necessary in any profitable study of its development to note its inflections and laws of syntax. Modern Aryan languages follow a law known as Grimm's law.[2] In the same manner there is back of all grammar the history by which language acquired structure. There are languages like the Chinese called agglutinative in which syllables and words are simply combined without inflection. But the style with which we are more familiar in the Aryan and Semitic family is inflectional. The history of grammatical forms as language grows mature shows a tendency, not toward the increase of forms, but toward a reduction and simplification. The older dialects and languages are the richest in inflections.

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[2] "Grimm's formula looks thus:

Greek	p	b	f		t	d	th	k	g	ch
Gothic	f	p	b		th	t	d	h	k	g
High G.	b(v)	f	p		d	z	t	g	ch	k

which may be expressed generally thus that tenuis (T) becomes aspirate (A) and then media (M), etc., or tabulated:

Greek	T	M	A
Gothic	A	T	M
High G.	M	A	T."

(Jesperson, *Language*, p. 44.)

In fact, some of the wild tribes have an equally wild growth of forms in their speech, a multiplication of gender and number that puzzles us. But as culture waxes, forms decrease and in our own English language today much more importance attaches to the rhetorical order of words than to mere grammatical connection. If we compare contemporary with Anglo-Saxon, or Old English, we note the difference, not merely in vocabulary, but also in the much fewer grammatical forms used in modern English. Where a language becomes relatively standardized through a literature that brings it to its majority, like the Bible in the modern High German language, it clings to the forms of the time of fixation. This bit of history explains why some modern languages are richer than others in grammatical forms. Of course, the peculiar genius of a people, especially when they are civilized, also counts as a factor in determining the formal side of language as much as its distinctive vocabulary.

A factor well worth considering is the inner logic of language. A language consists fundamentally not of single words but of sentences. Human intercourse even under the simplest conditions differs from the mere sign communications of the animal in its use of the concept. But concepts, which may become and do become gradually more and more abstract as knowledge grows, never occur alone. The simplest form in communicative human lan-

guage is a sentence. The sentence is the grammatical term for a judgment. What the living cell is in biology, the sentence or judgment is in language. It is composite like the cell. But the concept which is treated as subject or predicate does not exist separately in actuality. We only analyze a sentence into parts as we dissect a flower into parts, for in the development of language as the expression of thought no one takes a subject and then looks about for a predicate and then hitches them together, through a copula, like two cars of a train. This is the mechanical idea of language which treats words as single counters or figures. Aristotle had a better conception, for he confines himself to the two units, subject and predicate. Sometimes as in an exclamation there is a whole sentence contained in a single word. When we cry "Fire," we actually say, "Come, help put out this fire." A sentence often gets its start in the action expressed in the predicate. Sometimes when a subject is mentioned the predicate is understood. It is interesting to note in child language how the action is all that is expressed. The child says, "Meouw" or "Bow-bow." The outstanding action also serves as its agent's name. When the child says "Papa" or "Mamma" it always implies more than an address. Some want also is expressed in the single word. We cannot speak or think except in a sen-

tence. The simple sentence is the lowest possible unit. It is the monocellular structure in language. This basal logical fact gives human language its unique character and equips it to express the highest flights of thought. All logic is finally built upon the ukase or judgment. A syllogism is only a relation between judgments. Facts, inferences, speculations—all that thought can give—are the outgrowths of the judgment clothed in the sentence.

Finally, the end of language and its real kernel is its meaning. Meaning is the content of thought or feeling or volition, and language the container. Whatever the changing color of the words, meaning demands that a choice among the variety of possible interpretations of language shall be fairly clear. Meaning gives a stability to our modes of expression. A shifting or ambiguous meaning is useless. And yet, because at their best words "half reveal and half conceal the sense within," it is very difficult to be minutely accurate. The only remedy by which to secure the most widely understood meaning is by the use of definition. Literary men, who often regard language from the point of view of its mere beauty, or who live largely in the world of description, like vague, flowing words. But even they cannot succeed in minimizing the fact that well-understood meaning, without which what they say becomes valueless, demands definiteness.

The sciences and the arts, furthermore, stand in need of technical terms. But in the handling of language it is necessary to note the danger of losing ourselves in words and separating them from things and actualities. We cannot live in the world of things and objects and neglect words. This is very evident in the case of those one-sidedly trained scientific students who can carry on experiments but lack the command of language required to explain adequately what they have done. Their education in the right use of language has been neglected. On the other hand, we must also avoid the danger of losing ourselves in a jungle of words, in our inferences and speculations in regard to the world of spirit. An important problem of meaning is concerned with the distinction between the literal and the symbolic. There is much more symbolism to meaning than we ordinarily admit. But we dare not let it run wild and rush us into the realm of the uncontrolled figurative and allegorical. Directness of speech is the first essential of its value as meaning. Metaphors and figures are like the ornaments on a building; they are beautiful but they are not the prime necessity. There is need today of more extensive and careful study of how to dig the last ounce of meaning from language. Not only the intellectual element must enter into it, but the characteristics which feeling adds.

SUMMARY

The growth of language helps us to understand how society grows in its ideals. It is a basic tool which men must use if they are to realize their unity. By its means the individual and society fuse in thought and feeling. It is provocative of action. Language in its richness and depth supplies us with an adumbration of a mind far beyond our mind. To the extent that God would express Himself He needs an organ of language, not only that of inarticulate nature, but one of personality. It is therefore no accident that Christ as the revealer of the Father is called the Word.[3] What is there attributed to Him is not only the redemption of men, but also the creation, which indicates that there is meaning in the universe only to be found and unfolded by us through personality. This is the contribution which religion can make to the solution of the problem of language. The way of insight into language leads therefore into the realm occupied by mystery and faith of religion.

[3] John I:1 ff.

CHAPTER X

The Drift of Human Development

IN a remarkable play, of Thomas Hardy, *The Dynasts,* a picture of the Napoleonic wars is painted which amounts to a hypothesis of the scheme of human history and development. Great masses of men are seen coming on to do battle. They march and countermarch and the action sweeps on over wide areas. Here a victory occurs and there a defeat, and the individual is lost in the great mass movements. In the drama enacted the separate actors count for little. The lesson of the drama and its philosophic import is that men are adrift on a great ocean of tremendous power in whose sweep they are caught up and tossed about at random. There is a fatality at work that moves men like the figures on a chess-board. The fatalistic outlook of Hardy expresses a philosophy of the ongoing of human events that is not his alone. The last great war, in which the millions were as atoms in a mighty movement, seems to have confirmed numbers of thinking people in the hypothesis of necessity and fate. What did the individual count for over against the extent of the forces at battle. He was lost in the great action. Puny was man

and helpless in his contest with the forces of destruction and engines of war. Is this not a true sample of all of history? Man finds himself a plaything in the end of forces that he wrongly thought he could control. He deceives himself at first with the thought that he is free to make his history and to guide his development. This view of human development as a course of disillusion[1] seems very plausible when we look upon history in the large.

But not all thinkers accept the fatalistic conception. There are some who concretely demand, as they undertake to analyze history, that before sweeping generalizations are made we shall note the living details of events. Every event is, after all, unique. There is something individual about every happening. No two historical occurrences will be found to be exactly alike if we carefully examine them in their actual settings. The first commandment in history is to portray as faithfully as possible, in the light of all obtainable facts, what actually took place. With as high a degree of impartiality as can be obtained when the personal, political, and national predilections of the writer are taken into consideration, the events must be chronicled. Into the framework of time and place there must be put a true picture of what happened.

[1] Spengler in *The Decline of the West* holds that history runs through cycles from progress to decay. He claims the evident decay of the West.

Of course it is not only necessary to catechize monuments, accounts of eye-witnesses, chronicles, and diaries, but it is also essential to attempt to analyze the motives back of actions. The advocates of this realistic hypothesis of history are afraid of the theorists. But can anyone write history without at least an implied philosophy creeping in? And will not the historical writer who attempts to be as objective as possible finally seek for an explanation of the events which he chronicles?

As soon as causes are looked into, a description of the course of human development in history cannot stop with the recounting of events in a simple, straightforward manner. Every student of history will finally be compelled to frame some general hypothesis inclusive of the facts which he records. Objective history cannot remain objective. Eventually, it is always put through a process of interpretation in the human mind. To be sure, the mind must endeavor to hold to the objective in digesting historical data, but there will always follow of necessity, at last, either an expressed or implied hypothesis of history. No historian ever quite succeeds in getting along without any philosophy of history. No matter how individual and unique in many features any event is, in order to understand its history, we shall at last look for the generic in it. History cannot remain a mere matter of the memory of multitudinous details. The realist who denies

the right of the mind to make a philosophy of history remains an atomist. He cannot explain the real course of events through his actualistic individualism.

Carlyle is the literary representative in the English language of the idea that history is the story of the lives of great men. This conception underlies his *Heroes and Hero-Worship*. He does not mean that all that goes to make history actually can be found in the biographies of the great leaders, but rather that the leadership of the world gives history its sense of direction. It is not a theory of events achieved single-handed, but the accomplishments of groups led by individuals who have impressed themselves and their ideas on the world. The real way to tell the story of human development then would be to recount what such leaders, for example, as Hammurabi, Moses, Nebukadrezzar, Cyrus, Alexander the Great, Themistocles, Socrates, Caesar, Napoleon, Washington, and Lincoln, have accomplished, with the aid of the hosts of men who followed them.

It is not open to dispute that there have been outstanding rulers, mighty generals, wise lawgivers, far-visioned seers, loving poets, deep thinkers, doughty discoverers, thoughtful inventors, courageous reformers, who have changed the face of history. But did great men do it all, or is there also a chronicle of the help received by them from the

populace? Was McMaster mistaken when he called his book "The History of the American People"? Whenever the thoughts and actions of single men have greatly affected the course of events, has it not been because they succeeded in reading the signs of the times, and in them their contemporaries have found their own thoughts and aspirations brought to a focus? Sometimes they have not been conscious of their representative place and yet they spoke the common mind. In many instances great men have been ahead of their age and their programs have been prophetic. But when history caught up with them, even partially, it was not because they were largely responsible for the progress, but only that they foresaw the future. Without minimizing any contribution that great leaders have made, there are in history many happenings that cannot legitimately be traced to their influence.

In opposition both to the faithful transcript of the individual happening theory and to the leadership theory of great individuals is a third school that divides history into different streams. Outside of their own land, many great leaders exercise little or no influence. In various parts of the world definite continuities may take place in a national history which are not so readily traceable in universal history. There is a history of politics, of institutions, of industry, of commerce, and other human developments. A study of these shows an

inner relation and formative powers that are not explicable by any transcript, no matter how faithful, of individual events or through the work of great leaders. We know, for example, that in political history great advances have surged up from below which did not depend upon great thinkers at the top. Political history is not identical with political philosophy. There have been great dreamers of ideal institutions, as Plato in his *Republic,* More in the *Utopia,* Andreae in *Christianopolis,* Bacon in the *New Atlantis,* Campanelli in the *City of the Sun,* Butler in *Erewhon,* but they have not affected history greatly. The one general feature common to all these utopias, namely, the need of eugenic regulations for the improvement of society, did not produce the growing concentration of interest on the subject, for that is due to biological progress.

If we really study the history of philosophy with that end in view, we shall see that although it mostly appears to be only an account of the isolated speculation of deep thinkers, nevertheless close analysis will bring to light plenty of connections between these thinkers and their age. We discover a thrust and drive, like unto the push upward of the sprouted seed, running through all speculation either as a reaction or as a consequence. It is responsible for an inner logic in the history of thought that conditions the channel speculation will take as

its bed does the course of the stream. In any review of the history of industry or commerce it is also noticeable that continuity and progress there depend upon many factors. The great inventors by means of their great inventions did not single-handed create such an upheaval as the industrial revolution. Factors other than individual ingenuity are required to effect an industrial or commercial advance.

We need not pause to discuss the narrow view that all history should be interpreted in national terms. This disposition to glorify the nation to which one belongs, and magnify its development and its culture as superior to all others, leads a nation in its pride to seek the imposition of its ideas upon the world. Such nationalism may be military, or it may be rampantly democratic and fail to make due allowance for the necessity of different forms of government for different people. But there is a roomier hypothesis of history than this which makes the development of mankind result from a progressive embodiment of great ideas and ideals. The German historian Ranke saw in history the march of great ideas working out their way in the life of peoples. He believed that these ideas were divine thoughts in human dress. For this conception to become Hegelian it needs only to be interpreted as the logical movement of the absolute spirit in time.

The fact cannot be denied that one and another

spacious ruling conception has held sway in different ages and times and lands. The ideal which Greek history sought to incorporate was the harmony of life through art; the Roman dream was one of orderliness through law; the French national purpose the maintenance of independence; the English ideal constitutional government and liberty. The American passion, which is now capturing the imagination of the world, is for democracy. It is remarkable to find whole ages with such outstanding characteristics of mind and outlook. The ancient world laid all its stress on solidarity. The Middle Ages still insisted on the unity of a universal empire and church. The modern age concentrates its gaze on the man within and is dominated by the thought of the rights and privileges of common individuals. After full allowance has been made for the formative influence of these spacious ideals, however, there are many facts and features in history that do not seem to fit in with any claim of sole responsibility for them. That theory is partially true, but for the full solution of the problem which it raises we must call in the necessary moral order of the world. Now this moral order is not always respected by men, but our business is to learn submission to it every time. The history of the world is not always in accord with the judgment of the right. As yet the meek

do not govern the world, and the highest principles have nowhere yet prevailed.

The ruling conception of history today ascribes human development and the progress of events to the pressure of economic forces. What the need of food, clothing, and shelter stands for to the individual the great economic necessities stand for to mankind. They are supposed to be the source of the motives that explain human action in history. They supply the background to man's conquest of nature and form the basis of his welfare. The appropriation of natural resources and the goods which shall be made out of these raw materials obey the law of supply and demand. The margin or surplus which is demanded for progress, the pressure of population, the extension of territory, the necessity of markets for goods, and the control for their sake of the sea and the capture of colonies—these are the considerations that lead men to the decisions and action that determine their history.

In their first efforts to gain control of nature, men began as hunters and fishers, and these primitive occupations continued to serve until demand began to outrun supply. But that condition soon forced them to put the soil under cultivation, and the agricultural stage set in. This new age differed sharply, socially speaking, from its predecessors. A settled mode of life took the place of the former migratory existence. But the herding of animals

that had been domesticated gave some groups a chance to compromise and live a semi-nomadic life in search of fresh pasturage. Each of these stages developed a specific life of its own. When the day of the tribal period drew to a close, and the integration of nations began, the direction which it gave to the course of history was different among the various peoples. Some brought more acres under cultivation and grew, some tried to remain pastoral, and dwindled, others became carriers of commerce. Gradually the discovery of new lands and the growth of domestic arts led to the beginnings of the industrial period and the expansion of its operations since the invention and use of machinery. We are living in this period today. It is favorable to the increase of big cities and the centralization of men in them over against the scattered mode of life in the agricultural period. Nations grow to an unwieldy size and their politics become subject to the control of economic considerations. Armies and navies are constantly expanded in order to follow and protect the trade by which the millions at home secure their living, and to seek new business opportunities.

The historian today selects those features that are on the side of his explanation that the course of history is due to the pressure of economic forces. The conflict between Rome and Carthage becomes a struggle for economic supremacy in which all

their political and military resources were employed. The downfall of Rome was due to the impoverishment of the soil owing to the growth of badly managed great landed estates, the decrease of separate better tilled farms, and the careless work done by slaves. The death knell of the Middle Ages was sounded by the discovery of America, and the consequent changes caused by the influx of products from distant lands. The invention of the printing press by popularizing knowledge, stimulated experiments that opened up new avenues for industry. The peasants grew restless under the old feudal control and sought an extension of their rights. The knights became robber barons. A new class composed of wealthy merchants arose in the cities. All of these changes stirred up men against continued slavery to precedent and led the way not only into the period of the Renaissance but also prepared them for the appeal of the Reformation. The beginnings of American independence arose from the necessity for more economic freedom in opposition to the control of the livelihood of the colonies by England. Liberty as an ideal is simply the counterpart of freedom in economic life. The Civil War was due to meddlesome interference by the newer American with the cotton belt and its slave labor, according to the Southern interpretation. The Northern ideal that the preservation of the union was a necessity was an ideal fundamentally resting upon the

economic principles that American industrial life could not endure part free and part slave.

Nothing apparently illustrates better how the course of history is due to the pressure of economic forces than the last war. A growing restlessness existed which was not in the last analysis the result of racial and political antipathy. Germany was multiplying in population. It needed a larger national income, and sought it in colonies and more world markets as an outlet for its growing manufactures. Russia could not allow Austria to get the upper hand of Slavic people and become their commercial overlords. She herself needed a trading outlet to the Mediterranean Sea. The national incomes of the Balkan States were economically unbalanced. France had long desired the iron and coal of western Germany. Her political claim to Alsace-Lorraine was only the sentimental accompaniment of this economic need. England could not surrender the enormous revenue and commercial advantage from the control of the ocean to the growing competition of the German merchant marine. The people on the Island of England only raised enough food to supply their own needs one month out of the twelve. The very life of England depended upon markets and carrying in her bottoms the manufactures which she exchanged for food. It was the world scale on which her industrial operations were conducted that made her an empire. But

now that the war is over, her dependencies are seeking more economic rights and a demand for independence comes to her from Egypt and India. Ireland gained her liberty ostensibly as the fruition of a dream of freedom fostered for centuries, but facts can be marshaled to substantiate the claim that what Ireland was really after was to be economically less dependent upon England. Japan presents the problem of a population fast increasing, all of whom find it impossible to make a good living. Other lands are trying to debar her emigrants. What will this lead to? In this manner fact after fact can be cited on the side of an explanation of all human history—the migrations and settlements of peoples, their breathing spells of peace, their making of wars, their losses or gains, their success or failure—as due to the pressure of economic forces which run their inevitable course and carrying men in masses with them.

But after every fair allowance has been made for this point of view of history, does it approve itself as a fully adequate hypothesis? It is true that the motives of men, when we study the decisions of chancelleries and diplomats, the aspirations of kings and emperors, and even the appetite for power among republics, show that mankind is a good deal governed by material considerations. But does it follow that no right of way is given to higher motives at all, and that the servitude of men to eco-

nomic pressure is complete? Are the forces of development in culture purely economic, or is there an important stream of cultural history separate from the economic among men? Surely it is difficult to make real culture the outcome as well as the concomitant of wealth and prosperity. It is true that great advances of the economic order are frequently accompanied by the flourishing of the arts. The period of the Renaissance and the Elizabethan age are instances. But while economic well-being may give the opportunity for culture, does it start or sustain men in this new and different pursuit? Another objection to the dictatorship of the economic hypothesis is its under-valuation of everything intangible. From this economic point of view the hunger for liberty is only a false claim that rests on an illusion. The religious element of the Reformation is a very secondary factor, and no credit is given by it to the influence of religious ideas in themselves. Men are caught in the economic tide, they cannot make head against it and so there is also a disregard of leadership.

Will it not be truer to all facts to devise a complex and synthetic hypothesis in explanation of history rather than become the victims of this oversimplified accounting for it all by the pressure of economic forces? There is some truth in most conjectures, and the richness and complexity of human history may well draw upon the economic, the

ideal, and the personal element to explain itself. Sometimes one and sometimes another element stands out more prominently, but in the end all coöperate in the development of mankind. As the key to history is the understanding of society, the personalistic conception of society may furnish the clue to the underlying unity of all the sub-causes.

SUMMARY

The trend of human development in history is not mere drift. It is the product of action and reaction between mankind and economic forces, ideals, and leaders. While men may appear to go their own way or to be the slaves of impersonal economic forces, still there goes on a working out of personality. Is God cut off from history, or are there evidences after all that He is present as a power that makes for righteousness? Admitting that God is not apparent on the surface of history nor at all times evident, do men find that He fails them at the great crisis? If history can be interpreted personalistically not unfairly in the wide sense, does it not call for the presence of God to account for the fact that the race at many turning points of its life has not run down some steep hill to its own effacement?

CHAPTER XI

The End of Education

THE inquiry which we are pursuing would not be complete without a consideration of the real end and purpose of education. Education trains the mind and shapes society. One of its main instrumentalities is human language. History is another, for it seeks to envisage the attainments and culture of the past for the guidance that we may be able to extract from them. The latter consideration is an important element in education. Indeed, there are those for whom the full meaning of education is the preservation and maintenance of all the good bequeathed to us by past ages. But while many errors can be avoided through the knowledge of history, and while we could not dissever ourselves from the traditions and culture of the past without suffering great losses, it does not follow that this trusteeship of past gains is the total end of education. That static view of human development would make no provision for taking advantage of the great opportunities for progress among men. The old is given us for something more than to be absorbed, and followed without change. We are not only to interpret and apply its best features,

but also to add other stones to the growing structure of human knowledge. It is a bad policy in education only to glorify what was and is and to become a self-satisfied standpatter. The conservative in education has his place as a check upon the wild speculator, the lawless experimenter, and the reckless innovator. Since there is a considerable amount of haphazard educational trying-out going on at present, we must listen to those who insist that we perform our duty as trustees of past gains. But the past must not enslave us. Not all that is past is good, and not all that is modern is evil. We must endeavor to make a just appraisal and strike a balance between useful traditions and worth-while new attainments in order to provide ourselves as well as the younger generation the best education.

The final purpose of education must include the whole man in its scope. The training and development of mind is not possible without a corresponding training and development of the body, also, with which that mind is geared. The ancient Greeks, who attained the highest average intellectual development of any people known to history, were never unmindful of the necessity of bodily culture. They made gymnastics an essential part of education. Their ideal of the body pictured in their art has not been surpassed in its harmony and beauty. Our modern life has led to such a general deterioration of the body of the pupil aside from the athletic

specialization of the few, that the first thing to be done often is to give them a course of corrective physical treatment. We must give pupils a thorough physical examination periodically and put them through training that will make their bodies sound and healthy. Instead, with characteristic American exaggeration we overemphasize competitive athletics and undervalue, or at least underpractice, general bodily development. The record made by our men in the last war when they were examined as to their physical fitness is not at all flattering to us. The brain cannot function as steadily in an unsound as in a sound body. As personalities we must depend not only upon our minds to respond to our calls for their services but also upon our bodies. Psychology both in the case of the child and of the mature life shows us the vital necessity of a strong and balanced nerve-structure. We are unduly sapping these storage batteries of direct and reserve power for thought, feeling, and action, by much of our present-day high-tensioned living. Our education must rise up in open rebellion against many conditions of living today, and upon the established facts of medical science institute and operate a curriculum of bodily development that shall act as a corrective. Attention must be paid to food, clothing, cleanliness, exercise, rest, work, fatigue—all the factors that make for healthy, normally functioning bodily life.

One of the results of the physical and mental examination of children is the discovery of pronounced individual differences. There is no such thing as equality of endowment or sameness in capacity for education. It has been ascertained that a stoppage of growth occurs in minds of a certain stamp. Thus, while the body goes on unfolding to its full maturity, the mind in many cases comes to a place where it stands still. We find people with the minds of fourteen-year-old pupils who are twice that age. Until some means is found for overcoming such a limitation, just treatment requires us to give these limited minds their full chance, but not to press them beyond the capacity thus clearly indicated. The purpose of education is not to push pupils taken as they run as far, and as fast as possible, up the scale of the curriculum. Education serves its purpose best by fitting men and women for what they are equipped to know and do. The equality of opportunity in education which should obtain in a democracy cannot be secured by opening the utmost range of the educational program to all people, but through appropriate personal treatment which will lead to the greatest usefulness, liberty, and happiness of every individual in relation to all society. In this way the true interest of the community in the stores of personality distributed through its membership will be conserved. The business of education is not to

squeeze men into a curriculum, but to select from the curriculum the combination calculated to produce the best results in each particular case.

Of late this conception of education has been interpreted in the vocational sense. The best education, it is claimed, is that which fits boys and girls directly for what they want to do in life. This seems a very wise and practical idea at first sight. It appears to avoid the waste of time and energy otherwise spent in getting adjusted to one's vocation after school life is over. The school and this after-need of making a living are coördinated. Through vocational direction and guidance young men and women are led early to choose and then begin to prepare themselves for their special place in society. Is this not the best way to prevent a round peg from being put into a square hole? Are we not taking a step far in advance of the past that postponed the choice, at least postponed doing anything much about it until school life was about done. Formerly also it was an almost generally accepted practice that children would follow the calling of their parents. At times this family tradition in regard to an occupation became burdensome and restrictive of true freedom to a son and heir in making a satisfactory and happy choice of his work in life. A reaction then set in which has allowed more range of liberty since. Perhaps on this basis there were too many misfits because the

need of wise direction was somewhat overlooked. Is our modern procedure better, and does it combine most effectively and justly both liberty and guidance? It is so claimed, and yet its truth depends a great deal upon the vocations presented and the ideals offered as the basis of choice. Up to this time the usual vocational guidance has rested its case too much upon material considerations. The idealistic professions and the attractions of these forms of Christian service have not been getting their due. The controlling consideration presented was that of economic need and personal advantage. The church has found it necessary to take a stand in its own behalf against the prevailing utilitarian trend in the work of vocational guidance. The joy of forms of service in which pecuniary rewards are a secondary consideration is not presented in the usual vocational scheme.

The vocational trend in education has not concerned itself to provide ways and means of allowing personality its highest scope. It is taken up with economic conceptions of rewards and success which are made so attractive that the conclusion reached by young people has well been expressed thus: "To make the most money possible, in the least time possible, and in the easiest manner possible." The recommendations, attractive as they are intended to seem, have up to the present not been upon the high level of man's capacity for helpful service. There

has also been undue restriction in two other directions. The vocational office of education has had the endorsement both of capital and labor for seemingly selfish reasons. The school preparation of the boy or girl to take his place in the shop, the mill, the farm, and the mine would furnish a steady flow of recruits for the constructive operations of capital. The number of workmen with some training would be increased. It might even tend to lower the wage of labor, and in this possibility capital is always greatly interested. On the other hand, the labor unions welcomed the chance to cut out the low wages paid to the apprentice. They could at once enroll the boy and girl in their ranks at nearly full pay.

The other direction in which the vocational interpretation of the school has restricted real choice has been the tendency to take it for granted that the vocational guidance in an industrial and manufacturing center should agree with the industrial environment, and that in a farming section it should be agricultural. This means that a child is to be limited in the range of its educational opportunities by the accident of its surroundings. The boy of a farmer might prefer to become a good mechanic or a scholar, but the vocational emphasis would be in favor of keeping him on the farm whether he is really fit to farm or not. In the same manner, the boy in an industrial or mining section ought not to

be led directly into the vocations about him without a chance to find out whether he would prefer something else. There is a real, undemocratic pressure brought to bear in the operation of the vocational choice as it is carried on. The test must be, not fitness to respond to immediate economic demand, but the right of every personality to a full range of choice.

Because such progress has been made in the exploitation of our material resources we are apt to accentuate the material side of life. That may be the reason we are at present lacking in sufficient leaders with any other ideal. One-sided vocationalism, in trying to level down all children to compliance with the vocational demand, makes it hard for the exceptional mind to find itself. Youth is stampeded into rushing in where there seems to be the greatest call and best money reward. If fine minds were incited to undertake preparation for leadership it would be easier to secure and develop leaders. What Cardinal Newman said of the universities—that they leveled down great minds—is certainly true of vocational guidance in practice at present. It is a fact that the members of the mass are elevated one or several stages, but one great mind lost in the leveling process is not compensated for by small advances in multitudes of average intelligences. The same unjust leveling process is coming to be the rule in the colleges and universities.

Despite the raising of standards of admission, the crowding in of the multitudes leaves no time and leisure for special attention to the fewer finer minds. Democracy cannot live simply by insuring better general education; it also needs to make provision for better leadership. Present educational practice is not furnishing this, because the economic conception of education and its profit motive have prevailed over the richer, fuller personal development theory.

The end of education and the philosophy supporting it must favor mental growth in the individual and society. But this progressiveness must know how to hold the balance true between social growth and the growth of the individuals composing the group or society. Any system of education that will not give free rein to all that an individual is capable of becoming is a violation of his rights. Surely it is not just to handicap anyone. Life itself later on puts enough obstacles in one's way for progress. The days of education may not be checked by the mere overcoming of handicaps. It is true, on the other hand, that we fail just as disastrously if we prepare an individual to expect to have his own way in everything and allow him to choose his knowledge altogether according to his personal whims. There must be a disciplinary residuum; an utterly uncontrolled freedom cannot turn out well. Nevertheless, intellectual curiosity

must have its fling, too, and the utmost joy and liberty compatible with making men efficient for life with their fellows. The temper of the oversight exercised should not be justly chargeable as either too harsh or too feeble.

The individual is not getting ready to live as a hermit but as a member of society. Therefore education must be social preparation as well as individual. His sense of social responsibility ought to be exercised and developed. Even in a democratic society there are necessary limitations and obligations to which individuals do well cheerfully to consent. It is an utter mistake to allow young men and women to grow up without constantly reminding them of the need of attaining proficiency in a multitude of adjustments to the social complex represented by the family and the state. Mutual consideration and readiness for team work must become second nature. The fact that if one suffers all suffer must be learned for life. No individual ought to grow up without making a good beginning in treating everyone as an end, as a personality. Sympathy, kindliness, consideration for others, common fairness, justice, honesty, and honor, he should agree, are the only negotiable commodities in his dealings with them. These social obligations are not to be permitted to become enslaving, but on the other hand the individual is not to let himself become an outlaw living only for himself. Law

and order are essential elements as well as liberty in the democratic conception of life. They are the preservative that keeps our common rights from spoiling and maintain the liberty of us all. A balanced conception in which both society and the individual receive their just due will keep a student out of the clutches of the individualistic conception of independence which is running riot today and making a lawless society. We must get away from the eighteenth-century style and make our conception of independence in accord with the social ideal. We need to do this the more because we have lost the other eighteenth-century ideal of ordered liberty under law. As soon as the social conception is held in proper respect, law will become the expression of our common will as we submit to it willingly, because we recognize in it the guarantee of our rights and liberties. No philosophy of education is adequate which fails in allegiance to an ideal of liberty in which the right of the individual and the rights of others are fused. This is the root of the democratic conception of the way to live for which youth must be prepared if the future of their lives and of the world is to be safeguarded.

The dictum has become a commonplace among educators that the end of education is not knowledge but character. But the question then confronts us: What form of education will best form character? It is evident that preachments are not the

effective way, although great and high ideals on exhibit are always useful. Moral purpose ought to go into the choice of, and the work done in, every branch studied. Every study, not so much, perhaps, in content, but in the manner in which it is presented, in the methods employed, and the habits trained, can become either a hindrance or a help to the development of character. The way of indirection here as in all knowledge is an effective example of the principle that the minor good is a good and a part of the final good. The discipline required and the virtue elicited in the competent performance of tasks of all descriptions are all making character.

There are occasions when direct moral teaching can be given. But often the silent effect of the teacher's personality gets the better results. Emerson is correct when he says: "What you are speaks so loud that I cannot hear what you say." But the ultimate thing needed for the making of character is the influence of an ideal. Nor will any impersonal ideal prove adequate. There is greater incentive in the lives of truly good and great men. The greatest character of history, moreover, Jesus Christ, leads his admirers into the depths of religion. It is the source of supply of the high restraints, the strong sanctions, the living motives, the confirming faith, the conquering love, and the aspiring hope that keep men from faltering in the work of character-making. Not only the virtues of assertion

and expression, but also those of denial and repression—patience, endurance, long-suffering, meekness, gentleness, humility, which life also demands —find their nurture in religion. In the West we have been so busy with externals that we have missed some of the finer inward conquests, of which the Oriental has learned the secret. Our religion can lead us to them. Education must prepare for conquest both within and without. This cannot be done by holding aloof from the mystery of religion. It not only rations out comfort, strength, and joy, but it also establishes righteousness and justice, not upon the police power of force, but upon the liberty of love. An educational philosophy with the religious element left out is defective. Men are again coming to realize this, and are seeking ways to make use of religion in their teaching.

SUMMARY

This discussion of the educational problem has led us to a clearer estimate of the place of personality in the life of the individual and of society. That problem cannot be dealt with upon a mere material basis, but a solution to be satisfying must rise to the liberty of the children of God and find in Him and His Christ its highest ideal.

PART III

THE PROBLEMS OF VALUE

CHAPTER XII

The Test of Truth

THE study of the make-up and behavior of the mind naturally brings us to the problems of value. These are really questions which the mind takes part in answering, but they form a separate group, namely, the sciences of worth or value. The first to emphasize in a distinct way that there are sets of facts and inferences which have the peculiar character of value was Lotze, a German philosopher. The three great departments of worth are those of the true, the good, and the beautiful. Out of these grew the sciences of logic, ethics, and aesthetics. When Lotze drew the distinction between values and existences he did not intend to throw doubt upon the actual existence of the values in addition to the appraisal put upon them. But later, in the neo-Kantian movement, the valuation category of Kant was put to agnostic uses. In other words, values were interpreted as appraisals of the mind which did not necessarily exist apart from the mind making them. This point of view gave the true, the good, and the beautiful a very dubious foundation. If values do not possess any objective character, then they may be no more than the

illusory creations of human minds. Psychological existence is not sufficient to guarantee a claim to reality for data; they must be assumed to belong to some universal medium beyond human minds. Value to remain value, it is clear, must have existence back of it. Worth is only real because reality beyond it has conferred that value upon it. The sureness of values demands more than values. Actual being is called for and not mere estimates.

This question of the merely subjective existence of values is the first point to deal with in the discussion of what truth is. For there are thinkers who consider truth to be only our attitude toward existences, that and nothing more. They define it as that which we believe to be actual. The boundaries of the realm of truth coincide with the boundaries of our beliefs. If truth is made up only of our beliefs then, for example, the life of George Washington, what he was and did, is merely certain selection of memorabilia and the interpretation put upon them that we choose to believe in. These data become truth by the act of our attitude of acceptance toward them. Truth is the position we take toward this and that portion of reality. Nothing is true except as it is true for us. There can always be a gap between truth and reality. Truth begins and ends with the extent to which we apprehend existences and interpret them, but their actuality need not be what we believe of them. Truth

is consequently always relative to our apprehension, and it cannot go beyond our understanding of phenomena. If this be so, truth is never certain. Portions of it have a partial stability conferred by the stability of our allegiance to them. Does this purely subjective position exhaust the meaning of truth, or is there something more rightfully to be added? Is truth objective?

In opposition to the advocates of the doctrine that truth is psychological and subjective in character, others take the stand that truth is objective. For them full truth conforms to, and is identical with, reality. It is harmonious with the whole realm of being that includes all existences. The whole choir of heaven and earth is the organ voice of truth. It is the distilled essence of all being in nature and man and God. Our relation to it is that of those who begin on its rim and slowly work our way toward its center. Its innermost secret is to be sought after like the pearl of great price. The experiment of the scientist is prompted by the high hope that it may open the way to truth new to him. The truth still unattained beckons on the poet and the philosopher. Truth is not a name for one shifting belief after another, but for the passage from one reality to a deeper. It is as eternal as the reality whose stamp it bears, an ideal that invites and charms us. Our progress depends upon its power to draw us toward itself. Truth must be adored

and worshiped, for it is altogether worthy of homage. Our highest endeavors fail unless they are shot through with this love and pursuit of truth. We do not create it by our beliefs. Facts are facts, reality is reality; and our aim must be to extract the truth from them. There is much that is attractive in this view of truth, and it opens up the way to the understanding of truth in religion as not simply the product of subscription to our creed, but a piece of unfailing spiritual reality.

On the other hand, the exponents of eternal, absolute truth travel another road that ends in the relativity of our apprehension. They are inclined, like Hegel and Bradley, to banish truth from men and give it the logically absolute for company. All of the truth which we obtain is only partial since we are finite, and therefore truth in its full, infinite, absolute reality is out of our reach. Our truth as partial is partial error, and our error is partial truth, because both are incomplete. What better off are we, therefore, from this standpoint of the logically absolute, since truth is put out of our reach by this criterion as it is put out of extra-human existence in the subjective interpretation of it? Truth as an ideal that can never be reached throws us back upon our own imperfect resources. The outcome of the hypothesis of the absolute that puts truth out of our reach renders it subjective in its application of us. Where is the difficulty

located? Must we give up expecting either the viewpoint of its objectivity or subjectivity to crack the enigma?

Both conceptions agree that truth must gradually be appropriated. There is an inescapable subjective quality in it. The difference between the two attitudes is as to whether truth is made by us or whether we find it like the prospector finds pay dirt. Some affirmations that are unproven beliefs are of our creation, but of others our feeling is that we have struck pay dirt. We cannot deny the strong human conviction that truth is not of our making, but at the same time this truth that is not of our making we must make it our business to find and appropriate. This is the only way in the realm of research. In the spiritual realm, religion offers us truth, however, as a gift of God through revelation. Is this greater guarantee in its sphere preferable to the "seek and ye shall find" of research, or was Lessing correct when he said: "If God offered me in one hand all truth, and in the other the search after truth, I would say, keep the truth for Thyself, only give me the right to search"? Is the right of search more profitable than the joy of possession, and are we forever, even in the realm of the spiritual, to play the part of prospectors? What shall we make of the certainty of assurance in religion gained through faith?

There is another group of absolutists who, how-

ever, do not found their ideal of truth upon logic or reasoning. They are the mystics. The mystics find truth and reality in a single, undivided act. By intuition they see all truth without the intervention of a logical process. The slow approach through the intellect always fails of its capture in their judgment. But when we put ourselves into an attitude of quiet, receptive waiting and retire into the silences of the soul the eternal light will shine through to our illumination. Then everything will have become clear without the aid of senses or logic. In this way the religious Oriental abandons the restless and fruitless active search for their satisfaction and plots the death inch by inch of the desires and wants of life. He carries the purely passive to the verge of unconsciousness, and then drops off into the ocean called the absolute. There is a Western form of mysticism which does not go the full length and so does not experience the transition marked by the loss of the self in the absolute. But it also, whether it is philosophic or religious in its approach, loses itself to the extent of finding what it feels to be new and different contacts with reality. Out of this abandonment there arises knowledge. As a mystic, Jacob Boehme saw the world reflected in his pewter plate when the sun shone upon it. Visions appear, voices are heard, and a great happiness fills the soul. St. Paul is lifted up into the seventh heaven and hears the

unspeakable; St. Teresa lives in a marvelous blaze of illumination. We cannot deny that mystic experiences in great numbers are accepted as reality and truth by those who have them, but the outstanding fact is that the exaltation ascribed to fusion with absolute truth usually ends on an impersonal note. Then, too, all sorts of beliefs find cover under intuition. It has been called the philosophy of ignorance, and the philosophy of indifference might also serve as its designation. The intellectual truth attained is a heterogeneous mess. All shades of Oriental speculation, and all types of Christian beliefs, have been derived from mysticism.

It must not be forgotten that, when Fox stressed the inner light, it was after he had acquired a wonderful knowledge of the Bible. All surrender to the mystic inner light results in an addition, not of new truth, but of exaltation to the ideas and conceptions in which one has grown up. The mystic attitude is not truly philosophic but religious. Religion needs some measure of the element of mysticism, but it cannot build itself up completely upon it without going off on a tangent and giving a very shifting and uncertain meaning to life. Mysticism is a necessary part of our whole life, but it is not a reliable source all by itself of knowledge. Men are deceived when they think to find in it the full source of truth. They overlook the fact that intellect elbows itself in whenever we claim truth for mystic

insight and attribute to it communication of new and different contacts with reality. The world found by it remains shadowy and is not the actual world. The God obtained through mysticism only is the indefinite absolute. Mysticism can warm and intensify the life of intellect, but that is all it can do. When we sing about losing ourselves in the ocean of God's love we have previously been taught that God is Love, for we did not find this out from our emotion. If we are cautious, careful, and thoughtful we will not ascribe to mysticism the solution of the problem of truth. Romanticism is a species of mysticism. It controls the philosophy of Jacobi, and has found a new place of importance in the speculations of Bergson and Eucken. The vitalism of both is an idealism of sentiment. While Eucken glorifies work and criticism, his demand for creative power is highly charged with a mystic current. Bergson openly declares that we can only find truth in the impetus of life and by putting ourselves within it through intuition. This is romantic mysticism. Both of these thinkers augment their mysticism with much material gained by the intellect. Their romanticism is ultimately incomplete, an emotional rationalism wearing the disguise of poetic language.

In contrast to the speculators who seek an absolute solution of what truth is there are various realistic types of proposed solutions. Truth is held

by some philosophers to be correspondence of our thoughts to the actuality of things. The absolutists conceive of truth as residing in the inner coherence and non-contradiction of the world seen within the ring of a single great circumference. The school of correspondence thinks that truth in our minds is the copy of the truth in existence in the world without. The degree of the exactness of the correspondence is the measure of truth. This hypothesis endeavors to combine an objective and a subjective side of truth in its embrace. But the question arises: On what basis can we assume correspondence? The inner concept is not the outer object. It is only a picture of the reality, a reflection cast into the cave. When we note the difficulty of establishing a real tie between the outer and inner world, and weigh well the fact of the gap between the sensation and its object or stimulus, how can truth be anything but a truth of adumbration and not one in which reality actively participates? There is no hold upon facts and objects in which reality participates in its full strength. They are all photographs taken by our sensations and our apprehension in which reality may be passive. The same agnosticism to which the purely subjective point of view led, and the relativity which was the outcome of the absolutist conception, are not overcome in the proposed solution of truth as correspondence. There is a real world

without, but we do not really know that we know the object, which Kant called "Das Ding-an-sich" (the thing-in-itself). Consequently, how can we legitimately speak of correspondence? To support the position that the one blood of truth circulates between the observed and the observer, there must be knowledge of the world without of a more certain kind than that presupposed in the usual idea of correspondence.

In order to meet and overcome the difficulty of the rift between the mind and the external world, the modern neo-realists and the critical realists assert that we are in direct contact with the outer existences. These are called entities and are classified by the neo-realists as material, ideal, and neutral. In other words, it is asserted that we apprehend reality directly. But the analysis of this apprehension in the neo-realistic school amounts, as it turns out, to a reduction of the mental to the physiological. Sensations are eliminated on the score that strictly they are only experiences of the mind. Consciousness is almost silenced. With much detail of analysis that disfranchises the mind and violates logical consistency, it is maintained that reality leaves what marks or imprints it chooses on our natures. Critical realism is more respectful to the ideal in its theorizings and conserves the rights of the mind more truly. It is closer to the common-sense and naive conception of the reality

without which we experience. Truth is the outcome of our reaching out and taking hold of what is by direct contact. Truth is the name for the unity which results from the combination of the external world and our mind. Objects and things find their way into what is evidently and directly experienced by us. Truth is the inter-relation of the objective and subjective, but the relation is not one of inner coherence nor of mere correspondence. Truth is the common name for our experiences as they are unified. It is built up from many individual truths. No fact known and critically established need to be denied. And all facts and real experiences are woven into the unity of knowledge. The woof is the total of experience and the mind furnishes the warp into which it is woven. There is much of value in the standpoint of critical realism, if it be looked at from the angle of personality. Its danger, as with neo-realism, is the under-valuation of the subjective, and some of the critical realists as, for example, Santayana, have not escaped it. Santayana's world has become more material than ideal in his latest speculations.

Pragmatism is the most widely spread hypothesis in America as to what truth is. The name was first suggested by William James. The original idea is due to Charles Pierce. The pragmatic method determines truth by determining whether it works out. Truth is verification. It has no

prior existence, but is made in the course of verification. In the constant process of human thinking some facts and inferences get themselves established. When they are established they are true. If they become disestablished they cease to be true. Truth sometimes is simply that which proves itself to be expedient. There is no fixed truth existing apart from human experiment. Truth is never absolute but always only probable. It changes and varies with the circumstances of life. The pragmatic ideal as first proclaimed was in danger of becoming anarchically individualistic. It seemed to say that truth was anything which approved itself to anyone. But Schiller in his humanism gave a more orderly, social interpretation to pragmatic truth. The greatest exponent of pragmatism after James is John Dewey. He has endeavored with the aid of co-workers to establish its logic. Developed pragmatism presents the following features:

First, truth sustains the relation of a part to the whole in the general evolutionary outlook of the present. Often truth is frankly put into the same category with other biological functionings. The same terms,—the struggle for existence, adaptation, survival, selection—are all applied to it. Consequently the making of truth is a natural process. There is no other, no pre-human, established truth. Truth, again, is like life, always in the flux and in the course of passing through many variations. It

does not even become fixed as do species. The process does not show any signs of coming to a halt but is always on the move. The only test of truth is its power to succeed.

Second, truth deals in futures. It has its aim ahead, and toward this our gaze must be turned. The coming consequences are the important element. But we cannot tell what the consequences will be until they arrive. While we have our faces set to the future, all this is uncertainty, except where the intention is to duplicate prior experience as completely as possible. Nothing is sure of inclusion which does not succeed in being generally accepted by men. Past truth has its value only in the present, and present contentions will be justified according to how they turn out and how widely they find favor. It almost seems at times as though this conception rests its understanding of truth upon the democratic idea of a majority vote. There is nothing dominating or overmastering in truth, it exercises no autocratic power over the mind. We are all in doubt about the truth of anything until it has showed off to us and won a favorable verdict.

Third, truth must possess usefulness. Utility is necessary in any applicant for the badge of truth. Whatever is not useful is not finally true. Of course that makes truth depend upon how utility is defined. A very low and material definition may be the yardstick. It is generally claimed that the

criteria of utility applied ought to be determined by the sphere to which the truth belongs. But even with this limitation can it be said that utility is a sure test of truth? In the long run much truth can be made useful to men as they bend to it, but that test would put us in constant danger of rejecting some truth because it is not immediately seen to be useful. Utility at its best and even when carefully defined is a poor umpire between truth and non-truth. The passing idea of men as to what is useful is a poor substitute for an inner validity of its own.

Fourth, truth must yield satisfaction. This contention would support the claim that truth is not merely intellectual and abstractly logical. There must be in it an outlet of satisfaction for feeling and action. In fact, the whole idea of truth is activistic. Truth begins as a claim that needs to be established, but that confirmation is forthcoming when it satisfies the demands of men. We may ask: What are these demands that call for satisfaction? Are they always the same? Is there universal agreement as to what constitutes satisfaction? The tendency to stake everything on satisfaction is a vain effort to squeeze truth within the compass of our desires and wants. Those desires and wants are no full or sole criterion of truth. Often truth has been compelled to make its way against human wishes and impulses.

The value of pragmatism lies in its emphasis on the problem of verification, but it cannot fully answer the question, What is truth? For it, also, truth is very relative and changing. It does not even provide an adequate explanation of the fixity of an historical fact and incident. Is there no way out of this maze? Are we condemned to wander helplessly in a labyrinth in our search for the essence of truth?

There are some threads of truth, it is evident, in all the varying hypotheses. How can we unify and synthesize them? Personality offers itself as a clearing house spacious enough to contain and reconcile them all. Truth, no matter what its reference, has its abode in personalities and must establish and make itself at home in the personality of individuals and society. It has a subjective side with a history full of errors, deviations, and outlooks impregnated with relativity. But since personality points beyond itself, truth subjective points to truth objective which is prior to and beyond the truth found and experienced. The value of the absolutist position proceeds from this assertion. But absolutism fails, as does mysticism also, because it takes the truth above man in the universe and destroys its final personal character. The contact with the phenomena of all reality does not result in the embrace of truth as an ideal, a great unity, a high purpose. This cannot be found in abstrac-

tion, but only in the key to the universe given by its indications of power, wisdom, and heart. These indications are signs of personality. The personality of the human receptacle of truth has for its counterpart a revelation which asserts the truth of the absolute, infinite personality.

SUMMARY

In the quest after truth we cannot exclude the minor experiences of life through which we seek more and more to learn and know. We pass from truth to truth. Error needs to be eliminated and truth confirmed. This is the pathway taken by research in the world about us. But there is another pathway, the pathway of a great ideal and of a high end. The right impetus to travel along this highway can only be found in the faith that accepts the eternal as a gift. That reply is made in the spiritual realm through personality. The best available guidance comes through Christ who says: "I am the way, the truth and the life."

CHAPTER XIII

The Goal of the Good

NO term is so often upon our lips as the word good. We put it to many uses and give it many applications. But in all cases we really distinguish, at least implicitly, between any particular good and *the good*. A thing that is called good is so named because it fulfils the purpose for which it was intended. Its qualities rightly fit it for its predetermined uses. A good axe is an axe that possesses the qualities that do the work of cutting well. A good harp is a harp with such properties of tone that it produces fine music. But *the good* is the judgment we pass on conduct when it squares with the moral purpose of life. It was Aristotle who first assigned a purposive element. His whole philosophy had a teleological cast and stressed final cause as most important. Into this view of the world he could aptly fit the moral life as the functioning of the whole man in the way that he was designed to function. The final good is the highest all-embracing end for which man was fashioned. The name given to it is the *summum bonum*. Man is to find the realization and fulfilment of his capacity for judgment and action that is morally

evaluated at last, far off, in *the good*. The problem of ethics is, therefore, to fill this postulate of *the good* full of content. How shall this end to be striven after be best described? What is the nature of the purpose that shall make our life attain the good? All minor existences have some possibilities of good, and the ethical life is one in which to let the possible good in everything, in every person, and in every situation express itself. But there must be one final and highest good which takes up into itself all lesser good qualities, and in which the aim of the good culminates in its ultimate meaning.

Not all thinkers are agreed that the best approach to the good is to seek and find its end and aim. There are philosophers who hold that duty is the central thing, which must be mainly stressed. Kant is the best representative of the advocates of duty. From the fact that the will is fundamental, as in all action in moral conduct, he argues that nothing is unqualifiedly good except the good will. The good will is not good because of the end it seeks, or the consequences that flow from its acts, it is good in itself. It attains this goodness through its acceptance of the obligation of duty. Duty speaks not in uncertain tones but categorically. In duty, the ought of the moral law moves out to its expression. We are imperatively bidden to do the right. That demand is reasonable, for it is based upon the acceptance of everyone as an end and none as a

means. The maxim of the law is workable that urges us so to act that our action can become the universal action. However, the heart of ethics is not found in the theoretical reason but in the categorical imperative, the stern call to follow the ought and to fulfil our duty. This bracing and quite puritan conception of morals is very effective in making strong characters. But does it cover the full scope of the good, or does it not rather simply describe how the good may function through the will? After all, consequences cannot be wisely neglected nor the purpose back of the ethical life be minimized. Once the real goal and end of moral endeavor has been located we can better adjust duty and virtue to it. The highest good takes form and substance in the right. The law codifies the right. Duty then sanctions the right and thus shows the way to the realization of the good. Virtue is developed through the performance of duty and then becomes the habit of doing the good. These relationships all point to the supremacy of good as purpose over duty as the way of approach to, and the end of, ethical science.

But what content shall the good possess for us and toward what end shall we strive? Pleasure is one of the earliest and most constant interpretations of the good. When life runs smoothly, much pleasure is obtained. Pleasure in abundance is the natural consequence of physical health; its reactions

on the mind add no small sum to the total of joy and happiness. The pleasure attached to normal action is thus made the total end for which life is made. Only those actions are declared good which are pleasurable. This naturalistic conception of the good reduces it to the level occupied by non-human action. There is no real distinction left between human moral conduct and other sorts of conduct. Duty can find no real office, for the ought as a sense of obligation can find no place in a natural process and it therefore remains only an expectancy. Virtue becomes mere prudence which calculates what it is best to do in order to gain and retain pleasure.

The earliest Western philosophic expression of the hypothesis of pleasure as the end and aim of life is that of the Cyrenaics. They contended that since life is lived from hour to hour we must get all the joy that we can out of every fleeting minute. We must live and act habitually in a sunny mood. It is our privilege to take the cash of the present and let our stake of credit in the future go. But soon this pleasure of the immediate present and of pure sense palled as a steady diet and the hypothesis was modified. Epicurus made the pleasure, not of a moment or a day, but of all life, the highest good. To attain the goal thus defined, restraint and moderation are needed. It is not in the enjoyments of the table, the satisfaction of the senses, nor

in the gratification of passion that we get the most delight. The life of true pleasure is the life that goes undisturbed on its way for long, long stretches. It cannot be thrown out of its stride and thwarted by pain, sickness, or death. Our duty on this definition is to secure the most joy possible, on the whole, and to add to the pleasures of sense the higher enjoyment of things of the mind.

In modern thinking the hypothesis of pleasure as the solution of the problem of human existence has found its representatives largely on English soil. The period of the development of utilitarian economics also saw the rise of the philosophy of hedonism. It began with Bentham in an almost Cyrenaic form. Morals were called utilitarian and life was good in proportion as its pleasures were intense, lasting, fruitful, near, and extensive. Any motive that led the way to pleasure was good. But soon this extreme position that the business of life was the sponging up of pleasure was modified by the intellectual utilitarianism of John Stuart Mill. For him utility meant the greatest pleasure of the greatest number. There was quality as well as quantity to pleasures, some were lower and some higher. The higher pleasures were the ones to choose because they agreed better with the dignity of human nature. The soberness of Socrates is superior to every form of indulgence open to man. Mill did considerable to modify the pure hedonism of Bentham. Sidgwick still further rationalized

the pleasure theory and made reason regulative of pleasure. Pleasure was now to be found through the prudent ordering of the individual life, through benevolence toward others, and through justice in which prudence and benevolence are balanced. Still, when man sat down to consider the end he desired, it remained pleasure. Sidgwick, like all hedonists, did not discriminate between pleasure and happiness. Consequently, even the more rational forms of hedonism exalt sense. Hedonism could preoccupy itself with the raw material of life in human experience, because it lacked an organizing principle. It was a speculation that did justice to the riches of sense, but it contained within itself no principle of control even in its effort to rationalize pleasure. It is the interpretation of moral life which the unthinking multitude adopts when it follows its inclinations and desires. The unrestrained mercurialism of the crowd is the hedonistic ideal, and its results are by no means enviable.

Hedonism found a host of additional defenders and exponents in Darwinism. The biological emphasis on pleasure as the sign of sound and rightly functioning life seemed to furnish fresh support to the argument that pleasure is the end of life. The pleasurable accompaniments of an action were assumed to be the aim of that action. Good actions may give pleasure, but do they seek that pleasure as their aim? Is not the good the aim and the enjoy-

ment the by-product, and do we not sometimes even deny the joy for the sake of the good? Evolutional hedonism found its leading exponent in Spencer, although there are many other evolutional ethical systems. These evolutionist schools look upon moral conduct as the most highly developed and differentiated, to be sure, but as one more form of biological behavior. Ethics is the last stage in the evolution of action and conduct by which life preserves and perpetuates itself, but it is not qualitatively different from other creature action and behavior in nature. The mark of its success is its power of adaptation, and that adaption is guaranteed by the reward of pleasure attached to it. Pleasure is the accompaniment of the fit, survival-equipped, and well-adapted life. Duty is a passing phase of existence. It arose as an offshoot of external sanctions of society and religion. When that outer coercion is transformed into an inner urge, then duty begins. Finally, however, as duty becomes the habit of virtue it is absorbed and becomes second nature. This is the course of development which it goes through in the individual and in society. The police and the jails that the community now needs will at last be thrown out of business by the universal established custom of good behavior. Criminal law will have completed its services and pass away. The whole history is part of the one great natural process in which man,

horse, and apple tree are implicated. Man's so-called freedom is but one more device in the total evolution and no originative action of his own. There is no real value mixed in with it all but only the operation of a process that can be described in terms of natural law. Ethical life is close kin to physical life and must be included in the categories of natural science and analyzed along biological lines.

Opposed to the advocates of pleasure, as the highest good of life, are the defenders of reason. How much more noble and calm, they say, is the life of reason! In his intellectual development lies the hope and strength of man, for that is the one attribute peculiar to him. Did not the hedonist unwillingly but necessarily cross the border and take refuge in the reasonable aspect of life? Through it we manipulate our sensations into something useful and convert raw-like material into permanent values. It is our high prerogative. But how does reason develop? Does it mingle and combine with the fulness of the sense life, or does it endeavor to make life colorless and drab by casting out sensation as if it were an evil demon?

The first rationalists were the Cynics. They identified the life of reason with unconditional surrender to the universe and sought to live conformably to nature. All civilization and culture was a wrong-headed slump into degeneration, therefore

the Cynics returned to the simple life of nature and called that performance the real life of reason. It is strange that reason could become identified thus completely with naturalism and the distinction between man and animal be destroyed by the very theorists who desired to rescue man from the life of sense. Nature driven out by a pitchfork returned at once. So a more consistent rationalism arose in the Stoic school. It taught the law of abstinence in the intellectual life which treated all things external as things indifferent. Its aim was a calm impassiveness impervious to all feeling. The richness and fulness of human life gave way to a colorless substitute devised by the cold intellect. To the demand that restraint be put upon the individual was added the dream of immersion into universal humanity. Its motto became: "I am a man and nothing human is foreign to me." But this cosmopolitanism was not one of sympathy but of cognition. Its proud possessors esteemed themselves to be the really wise men. They professed to live, especially those who followed the Roman conception of Marcus Aurelius, a life of severity (*severitas*). As citizens of the world who had resolved to accept everything that fell to their lot without wincing, nothing could harm them which the universe might bring forth. Whatever the universal law and fate offered was accepted without a flinch or murmur.

An element in stoicism is the premium it puts on repression rather than expression. Asceticism is the child of stoicism. The object in life from the ascetic point of view is the suppression and not the indulgence of desires and wants, the elimination of all passions and appetites. In degree, it may be more or less stringent, but all types find evil in sense, feeling, and emotion. Its paradise is one of calm and still quiescence in the cave of reason to which it has retreated. Such a control regulates life by prohibitions, and maintains its repose by more and more complete self-denial. It lays claim to special holiness on the ground that it is not tainted by the ways of the world, by possession and passion. No restless longings torment its soul, instead it lives beside the still waters and rests in the valley of peace. The intellect carries meditation upon the ideals of the mind and spirit to a pitch of concentration that produces a sustained equilibrium. No storms can disturb its cloistered and secluded existence in the fair havens of the eternal spirit.

Another form of the rationalistic hypothesis in regard to the end and aim of life is the intuitional. According to it man has the fundamental moral laws in germ within himself. They need only to be cultivated and unfolded through experience. Clarke claimed that the moral laws were as immutable as the axioms of mathematics and that

men had these laws implanted in their constitution. It follows from this theory that the ten commandments are written by nature on the human heart and that only reasonable consideration on our part is required to discover them. It was through the reason of the common man that the moral principles could take the field and carry on their operations. John Locke in his attack upon innate ideas showed how various were the moral notions of men. He initiated the application of the historical method to this problem, and since his day the record of wild tribes has been scanned and a history of morals secured which disproves the existence of a set of innate moral axioms. Later intuitionists shifted their ground and maintained that man had an apparatus of response to moral principles and was predisposed to accept them. There was in him the form of morals, and training and society furnished the content. The highest ideals—good, duty, and virtue—were claimed to be the framework of the moral life. Just as Kant argued certain categories belonged to the structure of the mind, so the intuitionalists attempted to prove the same is true of certain categories of morals. Only thus, it was supposed, could ethics build on a lasting basis. Reason gave it an eternal value. On the contrary, however, the reasonableness of moral principles is not capable of vindication through the form or content of the mind, but through the increasing

justification of morals in history. The real basis for the permanence of ethical principles lies in the existence and validity of a moral order.

A tendency is present and at work in the world in behalf of righteousness. Great principles do not live on unless they are necessary to life and form an integral part of man's history. It is not hard to show both that certain moral laws positively benefit when they are observed and that men suffer when they are broken. When honesty, or truthfulness, or purity decrease, a state of unsoundness sets in, in society. As injustice and wrong grow, friction grows too. Crime demonstrates that we cannot live securely without ordering our conduct according to the Ten Commandments in their essential meaning. In consequence, respect for them has become ingrained in human life. This domestication goes deeper than convention. It bears the earmarks of inner necessity and immutability. It is on this wise that the reasonableness of the moral order can be proved. Men who expect to succeed in their aim to live in peace and comfort must conform to it, for it is no mere agreement and covenant of civilized society.

But the moral order is not always immediately dominant. Injustice and wrong often triumph. The righteous suffer want and the wicked flourish like a bay tree. Weak nations are oppressed and overcome through the greed and economic avarice

of strong nations. History does not solve all the moral problems connected with the inequalities in the lot of individuals and of peoples. This difficulty led Kant, in view of the general trend toward the right in the universe and the necessity of its use as a frame of the reason, to posit immortality and an eternal future in which individual and common sufferings of wrong and injustice would be righted. The religious belief in the hereafter was interpreted as a moral demand in the interest of righteousness. With the future life Kant also assumed a rectifying moral governor who would be in control of the adjustment of the inequalities of justice. He could not conceive of a self-adjusting power that makes for righteousness. More clearly than Matthew Arnold did he detect the implication of personality in the moral demand.

But the indefinite postponement of the solution of the problem raised by unpunished transgressions of the moral law does not meet the situation fully. The existence of evil and sin has been used as a weapon against God. It was Hume who put the dilemma in a form which has often been repeated since his day. Either God is good and does not acquiesce in the evil and thus is powerless, impotent, and limited, or He has sufficient power and is indifferent. The absolutists have always solved this problem to their own satisfaction quite easily by making evil a finite imperfection which would

be overcome in the infinite whole. It is a disharmony that will find its discords disappear in the harmony of the absolute. Bradley will not concede that there is any morality in the sum total of things that he calls the non-contradictory absolute. According to him, right and wrong, righteousness and sin, are correlatives in a finite world. Just as truth is partial error and error partial truth, so sin is partial good and good partial evil. This is too easy a solution of the problem and underestimates the destructive positive force of wrong and of sin. As a consequence, the pragmatists of our day have sought to relieve God of this blame for unpunished, and thus for successful, violations of moral law by making Him finite. Following the suggestion of Hume, Schiller in the *Riddle of the Sphinx* posits a limited God. James agrees that Schiller is right in this supposition. Wells makes God the Invisible King, who is one of us in our struggles through affairs, conflicts, and evils. As a pragmatic God He too is working His way out. Such a God is one of the immortals, only a magnified man who cannot control nor guide the universe. It is evident that the way out here is by the abdication of God, just as in absolutism the way out is by emptying evil of all its badness.

A possible solution still left to consider was advocated by Leibniz in his *Theodicy*. In part the speculation of Leibniz, that this is the best possible

of all worlds which God could make in view of our finiteness, is faulty. Equally he seems on the wrong track when, like Augustine, he thinks sin is a vacancy waiting for righteousness to remove it, an omission rather than a positive defect. But the other element on which he lays stress, namely, the assertion that the gift of liberty to man by God naturally involved the risk of the occurrence of wrong-doing, is more fruitful. If man was not to be a machine and his every move determined fatalistically, but the right of choice and determination was to be his, a chance was taken by God. God limited Himself in the exercise of His power for the sake of man. There seemed no other alternative than either an unfree man or a free man subject to the risk of falling. The religious account of the coming in of evil through superhuman tempting, and the contest between God and the devil, does not cancel the existence of human liberty in the beginning. The drama of good and evil is now carried on in man through the powers above him. Hope looks for the victory of the good and the elimination of evil men from the free world of happiness hereafter. This solution is not without its difficulties, especially its acknowledgment of the existence of evil alongside of an all-powerful good God. While it does not solve the problem of the origin of evil any more than do other proposed solutions, it seems more probable and plausible in

the light of all facts. It appears as the only one possible in the case of some problems. Where other speculations offer more difficulties, the solution with fewer difficulties seems the more acceptable.

The final answer as to the goal of ethics can be found in personality. Feelings and ideas cluster around the determinations that are the core of personality which take on a moral color. Those choices by which we become personalities are not morally neutral in most cases. They are either right or wrong. The central will is free in making them to the degree that it knows and feels its responsibility and accepts its obligations. Thus men as individuals, and men collectively as society, in making their determinations give evidence that they are not only units of a psychological kind, but unities of an ethical nature. The end of moral striving is the acquirement of a true personality that expresses and exemplifies the essential moral axioms in balanced harmony. This is the highest good, and after it we can and should strive. The atmosphere in which the development is carried on is an atmosphere of freedom, not unlimited in extent, but sufficient to allow the making of personality both individual and social.

SUMMARY

The goal of the good is not attained through pleasure nor reason, but through the freely chosen

fulfilment of personality. Back of and reenforcing the creative effort spent in growing personality in time stands the absolute eternal personality of God. He is the final and the complete consummation of the highest good. The God of Christianity is not a lonely hermit, but a member of society also. His revelation of Himself in the human life of Christ opens the way of deliverance to us.

CHAPTER XIV

The Basis of Beauty

AMONG the ancient Greeks it was customary to speak of *kalokagathia* (the beauty of goodness). In accordance with the Greek outlook upon life as beauty in harmony, the ethical was conceived of as beautiful. In this way it runs parallel to the Hebrew conception of the beauty of holiness. The Hebrew ideal was religious, and the Greek moral. The fact that beauty was found in the good led them to look also for the reverse, namely, the good that might be concealed in the forms of the beautiful. It was this ideal that moved Plato to appear to side with the puritan in his criticism of the stories of the gods in Homer as unfit for inclusion in the highest culture. Art as ancient Greece and its thinkers appraised it could not be art for art's sake alone. The highest forms of beauty in temple and sculpture, in epic and lyric, not only put a veto on ugliness but also on the ethically bad. Nature could be shown in all her unadorned beauty without prudery as long as the human portrayal did not add either by expression or implication any element of impurity. When human passion was portrayed it was not done for

the sake of pandering to the passion, nor was it exhibited to incite pruriency. All the fine and symmetrical lines of the human body were reproduced in sculpture, but it was beauty and not nudity that was glorified; hence the Greek tradition of the nobility of the human body. The fine dignity and carriage of the head characteristic of Greek statuary made it an illustration in marble of the principle of a sound mind in a sound body. The lesson thus read us by the Greeks needs to be relearned today. It teaches us that morality and beauty cannot be divorced in the highest art. Both the foundations of life are injured and true beauty is destroyed where this ideal of art is neglected. Art must ennoble and purify as well as please. It was Aristotle who emphasized the function of art as *katharsis* (cleansing). It takes hold of our feelings and not only stirs them up, but in the stirring ventilates and sweetens them. Thus does truly high art act as a purge for our feelings and emotions from the low, the mean, and the ignoble.

In his views of art, there is a peculiar contradiction in Plato. On the one hand, he puts a low estimate upon the productions of the artist. They are imitations of material forms. But the reality of material forms is denied, for they are just shadows of the eternal ideas, according to his philosophy. Only through their association and fellowship with the essential reality residing in ideas

have they any being. The artist imitates a shadow. His work is the shadow of the shadow, and is therefore at a double remove from the essential reality attached to ideas in the eternal heaven of thought. But on the other hand, Plato exalts the distilled essence of beauty. That mysterious extract of beauty is one of the great ideas in his hierarchy of ideas, and man must aspire to its society. The secret of this beauty is found in the proportion and the harmony of an ideal form which serves as an invisible matrix for the actual temple or statue.

Harmony is proposed by other thinkers than Plato as the real basis of art. Those who have imbibed the spirit of Greek art are overcome with joy and delight by the marvelous balance of lines and curves in the best Greek sculpture. They admire the unapproached perfection of form in the old temples. What charm there is in the music and rhythm of Homer and Pindar! Swinburne with his fine ear for the sensous delights of sound does but faintly echo the wonderful harmonies composed of the soft, sweet sounds of Greek poetry. How everything is in keeping in the simple structure of the Greek drama! Without any of the tricks and visual illusions of the modern stage, it convoys us into the heart of great human problems. Is it not the business of art to present the ideal, to sketch the fine curves of this handsome human head, a well-shaped nose of another, a gently sloping

forehead here, shell-like ears, and a delicately curved mouth there, and then unite all these perfections in the one noble profile? Beauty thus becomes universal.[1] This same imaginative regrouping of scattered units of sound into the perfected unity of a great poem or a great drama, that clothes high thoughts in beauteous, harmonious utterance, is art. The ideal of harmony is also applicable to painting. Good art in painting requires not only the right subordination of the background and excellent proportion in the drawing, but also harmony of color. In painting, clashes in color are as little permissible as discords in good music. The use of harmony as the key to the beautiful seems to reveal the soul of art.

The modern approach to art has been to speculate about its origin. The inclination to trace everything back to its beginnings, in order to make it clearer to ourselves is deep-seated. While this

[1] "Beauty is never an expression of the individual: its idea includes the perfection of those tendencies of form whose expression marks the outlines of the race. Therefore, in attaining beauty something becomes perfected which is more than individual. Here lies the reason of her compelling universal character, from everybody's point of view, provided they are alive to similar tendencies of form; for every limited possibility is only capable of one supreme form of realization. It is impossible to conceive a higher degree of harmonious and general perfection of the human body than that which Greek art has revealed to us; this is why we call its creations absolutely beautiful." (Count Keyserling, *The Travel Diary of a Philosopher*, Vol. I, p. 24.)

inclination is not to be disregarded, the whither is as important as the whence, and the question of values should not be overlooked. That art in its origin is related to play is one suggestion. Both are the outcome of a superabundance of power and life. They are an outlet for the overflow of energy which has not been exhausted in hard labor. The primitive man began to write in pictures in order to communicate with others. But he also started drawing crude pictures on trees and stones and the tusks of the great mammals for no reasons of utility at all. These latter were not a matter of necessity, but an expression of the play-spirit with its abundance of life in reserve. At dusk, as primitive people gathered at the mouth of their caves or in a circle about the fire, they began to frolic on their feet and the folk-dance was born. Clumsy antics soon made way for the expression of the rhythmic in movement. Later, this was often accompanied by the rise and fall of simple melody in song without words. Then came the ballad accompanying the dance. Love found something better than prose to voice its emotions, the lyric. The great deeds of dead heroes and warriors were recounted as they sat about the fire and out of the handing down of their feats from generation to generation by word of mouth developed folk-tradition and then history. A long series of adventures of some fabled hero, his amazing courage in battle against enemies, in the

slaying of wild beasts, in long exploring journeys, also found vent in rhythmic recital, and thus the epic was born. Then the need was felt of appropriate comment, and the chorus was introduced to follow the recital with telling interpolations. Men in the sheer joy of life began to mimic for entertainment and the dramatic instinct earned its first triumphs.

After men moved out of the cave and into the simple hut, in time something more in the way of adornment than the necessary shelter was added to it, and architecture began. Stones were piled upon stones and the pillar thus developed into size and majesty sufficient to form the entrance to the house of the gods. It was beautified by the leaves of trees that breathed into it the spirit of the woods. This is the kind of evidence cited in support of the theory that art arose as men gave vent to the fulness of their lives. The relaxation found in play was supplemented by the creative joy put into the effort of art. This hypothesis of superabundance of life as the source of art is corroborated by history. Great periods of expansion and fresh achievement like the Renaissance or the Elizabethan age are productive of a large outpouring of the surplus power required for great art. On the other hand, the noblest art is sometimes born in poverty and reared in struggle. Great painters and sculptors and notable composers who gave the world some of its

best art treasures, have had to rely on sheer indomitableness. Their art was a precious residuum of distress and want, for the world frequently failed to prove itself worthy of them. And therefore we cannot assert as far as the individual artist is concerned that art always arose from abundance.

Besides the biological speculation of the overflowing life, there are a number of psychological hypotheses in regard to the source of art. And perhaps they approach more closely to the heart of the problem. Art is a product in which the mind participates through its imaginations and emotions. The German thinker Lipps proposed the theory of *Einfühlung* (feeling one's way in) as an explanation of art. Man by sympathetic insight projects himself into the world about him, grasps its beauty, and then seeks to interpret it. He notes the ways, the thoughts, the aspirations, and passions of his fellows, and then tries to register them in stone, in color, in song, in poetry, in drama, and in fiction. There can be no doubt that art cannot be adequately understood without the aid of imagination in its appraisal. Art is not mere imitation. A copy is not art. A photograph is not art unless the imagination of the photographer has posed some scene so as to express beauty. There is a recasting of facts through art which comes to something more than a mere chronicle of events. Even its most realistic representations are not lacking in

imaginative touches. Its genius and inspiration come straight out of creative imagination. Art may be analyzed and explained by the intellect and the intellect may enter into its production, but it is not its progenitor. While the technique of art requires not only technical skill but also scientific knowledge, these do not constitute its essence. No more is mere unschooled imagination finally adequate to produce it. The construction of a good building, the chiseling of an impressive statue, the painting of a good picture, the planning of a poem, the plot of a drama or novel—all of these demand knowledge of a high order as well as imagination. Imagination cannot build upon sand; it must build upon the solid rock of what man has ascertained through his intellect. It must depend on the intellect again also as its judge and appraiser. Out of its criticisms art becomes refined and real standards get established. Imagination must be thus sobered and controlled, if it is to produce its best results.

There are other psychological hypotheses as to the source of art. Among these an outstanding one that may be mentioned is the theory of Kant, which assigned the beautiful and the sublime to the judgment as their fountainhead. In his *Critique of Judgment* he couples the problem of purpose with the question of the beautiful. But this theory of Kant is too intellectual. It does not give sufficient place in its portrayal of the judgment to the imagi-

native in man, although it is not overlooked completely. Schiller in his aesthetic speculations came closer to the truth. For him the beautiful was the dominant element and it found its way through the heart of man. It lifted him out of the commonplace and into the sublime. Schopenhauer had a pessimistic outlook upon the world and life but he found partial deliverance in art from the endless, hopeless striving of man. The masterfulness of desire, always seeking for satisfaction and unhappy in its seeking and equally disillusioned in the possession of what it seeks, must be abandoned. Salvation from this sodden misery of man is to be found through sympathy. But on the way to sympathy there is opportunity for the contemplation of the beautiful which can also lift man in part out of the bondage of a wretched life. Through art man can gain some happiness. We do not have to accept Schopenhauer's pessimism in order to ascribe some truth to his evaluation of art as joy. There is an elevation of feeling and an element of liberation in true art. We can forget ourselves and become identified in feeling or imagination with a great symphony, a mighty drama, or an ennobling novel. We can lose ourselves and find release and relief in the contemplation of a beautiful building, a fine statue, or a remarkable painting.

A discussion of art will always have to deal with the question: Which is the better motived, the

classic or the romantic, the ideal or the realistic? The classical and ideal clings to what is standard and lives in the long tested great creations. In architecture it finds its satisfaction in the purity of the Gothic, with its thrusts and counter-thrusts, its lofty, aspiring columns and pointed arches. There is delight for the classicist in a Romanesque with its rounded forms, a Byzantine with its high domes, a Moorish with its intricate arabesques, and an Indian with its richness of pinnacle as it rises in pyramidal form. The great planes of the Egyptian pyramid as they tend heavenward delight him, and he stands in rapt admiration before the Parthenon and the broken columns of the great temples. The classicist reads and enjoys his Homer, Virgil, and Shakespeare; his Milton, Dickens, Thackeray, Wordsworth, Browning, Tennyson and Stevenson. In music his preference is for the productions of Mozart, Hayden, Beethoven, Liszt, Grieg, and Chopin. In opera he does not feel called upon to drop the lighter classic Italian in order to appreciate the newer Wagner. The classicist sticks to the great accepted and established forms of art. The new must wait until proof is forthcoming that it can stand the sifting of time. It cannot be denied that the classic in all art dwells on the heights. While it may seem severe at times and limited in its range of taste, still it is full enough of variety to contain ample gifts to satisfy heart and mind.

There is nothing trivial and mean about it. Its affiliations are with the aristocracy of thought and imagination.

The romanticist claims to dwell closer to men in their immediacy. He does not take them up to the heights where the air is rare, but stays with them in the valleys at their everyday and usual life. Romanticism refuses to be tied down by the classic models. And in times of upheaval it becomes impressionistic. Then it strives in painting, music, and literature to catch the fleeting mood of the present. The colors it favors are the kind glaringly mixed by Whistler. The pure classic music becomes program music which attempts to describe moods and emotions. In literature it revels in the portrayal of the impulsive side of life and peculiarities of feeling and emotion. The impressionistic school in art is soon displaced by the realistic. In fact, modern realism is simply exaggerated impressionism. For statuary we have odd blocks. Painting returns to almost barbaric simplicity. This realism is not the naturalism of painfully accurate representation, but the realism of unbridled and uncontrolled imagination. Cubist art is born of a disposition to have nothing to do with the accepted and classic. In music the new realism seeks the popular by resort to the oddest forms. Strange rhythm and syncopation take the place of smoothly flowing melody. There is endless repetition of a

very simple theme, which is not varied as in symphony or fugue, but is a mere tiresome rehearsal of abbreviated and syncopated melodic experiment. Wild crashes of drums, incoherent drawls of the saxophone, truly represent the democratic realism of the untutored and uncultivated. Our drama and literature are one-sidedly realistic because they cannot seem to get away from the sex problem. They belong to the lower average of the commonplace. Even when literature deals with high society, as in the novels of Edith Wharton, the shady side of its life is pictured. Not noble characters, but Arrowsmiths and Babbits strut across the scene. Modern realism is democracy gone wild. There is a fair field for realism to serve as a balance wheel for an idealism that overlooks the facts of life. But the tendency of realism has always been to look only on the slum aspect of life. The evils and sins are portrayed in the high lights and the basest is thought worthy to be described with artistic skill. The claim is made that this realism acts as a cure for the evil, but in fact it only develops a slipshod tolerance for the low and mean. What art of today needs is a return to the purity of the classic chastened by a level-headed realism that knows how to refrain from excursions into the alleys and byways. It was well enough for Dickens to arouse our sympathy for the common people. This was

the way of true democracy. But literature today elects to sit in the seats of the ungodly, to companion with the worst sinners while it is condoning their sins, and to exalt the criminal and the abnormal. It is drunken with the amoral, naturalistic democracy of Walt Whitman. Our age needs redemption from Hauptmann, Strindberg, and their ilk, and deliverance from the free verse of Edgar Lee Masters and his like.

Has the beautiful merely a subjective background or has it an objective basis? In looking out upon nature we do not think that we are merely reading beauty into it through our imagination. Beauteous grandeur is there in the dash and foam of the waves of the sea, in the slopes of the majestic mountains that glisten in the sunlight, and in their snowy peaks glorified by the rays of the sinking sun. The valleys with their purling brooks and singing rivers speak of beauty. How beautiful is the riot of color of the flowers, and the changing reds and grays of sunset! The song of the birds fills the air with harmony. Wherever we turn, the sense of art is awakened in us through nature. It is these appeals which have called forth the creation of art by man. The subjective side of art is only our response to the beautiful all about us.

But whither does beauty finally lead? There has been no nobler answer to this question than

Plato's in The Symposium. He leads us to the very throne of God where he says of the beautiful as the ideal:

> "He who has been instructed thus far in the things of love, and who has learned to see the beautiful in due order and succession, when he comes toward the end will suddenly perceive a nature of wondrous beauty (and this, Socrates is the final cause of all our former toils)—a nature which in the first place is everlasting, not growing and decaying, or waxing and waning; secondly, not fair in one point of view and foul in another, or at one time or in one relation or at one place fair, at another time or in another relation or at another place foul, as if fair to some and foul to others, or in the likeness of a face or hands of any part of the bodily frame, or in any form of speech or knowledge or existing in any other being, as for example, in an animal, or in heaven, or in earth, or in any other place, but beauty absolute, separate, simple, and everlasting, which without diminution and without increase, or any change, is imparted to the ever-growing and perishing beauties of all other things."[2]

[2] Jowett, *The Dialogues of Plato*, Vol. I, p. 581.

SUMMARY

However we may interpret it, art rests on objective existence and depends on subjective appropriation. It must rise from the basis of physical to ideal delight and not lose itself in the low and mean. Its major benefit to us is the varied power of suggestiveness with which it points to the God who is beauty eternal as the Spirit of Love and Holiness.

CHAPTER XV

The Demand for the Deity

WHERE shall we find the seat of values and the ultimate explanation of existence? This question is at the bottom of the inquiry whether one final demand and one necessary end form the core of the synthesis which philosophy seeks to negotiate. In the end it is religion that claims to supply the answer to the ultimate questions of philosophy. But at the center of religion is the deity. In the course of the examination of the facts that point to God both values and existences must obtain their final sanctions. These facts can be philosophically investigated. After metaphysics in general has done its best, and the special philosophy of religion has turned in its answers, we are in a position to arrive at the ultimate, synthetic hypothesis explanatory of the whole. From the point of view of philosophy even the synthesis that seems most plausible must remain hypothetical. Only the affirmations of religion can give assurance and validity to the results of philosophic speculation. What are the facts upon which the belief in the deity rests and how must we rise from philosophy toward religion?

One of the important advances of the past century is the granting of scientific value to the psychology of religion. The fact that religion and the belief in a deity are psychological realities is no longer denied. But what are the psychological elements into which religion may be resolved? In the ancient world Petronius claimed that fear made the gods. Dread of the strange and the mystical, and the shrinking from the forces of nature not as yet understood created many taboos. Back of all this business was the fear of men who sought thus to appease the gods. What but fear could create such grotesque and awful representations of the divine and people the supernatural with demons to dread and gods to succor? The claim that the sentiment of fear is the source of religion has been reasserted in our own day. But Marrett in *The Threshold of Religion* substitutes awe for fear. Awe seems to be a nearer right than mere fear as an answer to the question: What is the essence of religion? Out of awe fear can be derived, but awe is more than fear, for it also includes reverence. The adoration of the gods is more explicable on this basis than upon the supposition of fear alone. Real fear is a mark of the degradation of the religious attitude rather than of its origin. Man reacts toward the superhuman in its mystic hiddenness. His sense of the sublime tells him that the superhuman overpowers and controls all of life, and

religion is born and grows strong on this same food. Among the lower tribes almost every custom and practice is conditioned by a religious reference. The summing up of the primitive ideas and usages seems to point to a final motive of awe more strongly than to any other motive in explanation of the rise and spread of religion.

The modern speculations on the psychological nature of religion have largely followed the conjecture of Schleiermacher that religion consists in the feeling of dependence. While not all of the investigators of the phenomena of religion stress dependence, they all emphasize feeling in their conclusions. James in his *Varieties of Religious Experience,* Starbuck, Coe, and many other students of the psychology of religion, make feeling and emotion fundamental. With this governing conception before them the modern psychologists have gathered the emotional experiences of religion chiefly. Then, too, there seems to be more in common between all religions from the angle of emotion and feeling than from any other angle. The emotional aspect of religion appeals especially to the American temperament and it is the prevailing religious attitude in Protestantism. The American Protestant emphasis upon spirituality proves to be emotional upon analysis, but in the religions of India speculation and the highest intellectual reflection are far more prominent. In an examination

of all religions, unprejudiced by partisan loyalty to any definition of religion, we shall find that feeling and emotion are not necessarily the only or even the outstanding elements. There is value and food for thought, for instance, in the definition which Matthew Arnold gave of religion. He called it morality shot through with emotion. While emotion is made the strong motivating element, yet Matthew Arnold realizes that religion also breaks out into action. It includes an ethic and has its laws and commandments for a good life. These cannot be eliminated as any religion worth the name proves, no matter how low its form. Everywhere in religion the gods possess moral attributes, albeit they may be defective, and a moral code, incomplete although it may be, is enjoined upon men by religious sanctions. All religion links up conduct with feeling. In the same manner, no religion can get along without its beliefs and creeds. There are intellectual elements and controlling ideas in all faiths, for man cannot feel without feeling the need of interpreting the feeling. The emotional life seeks a philosophy, and conduct is not content until it rests upon the conception of the divine. The best psychology of religion is that which takes into account the functioning of the whole mind in religion, for religion is an attitude of creative personality.

What is implied in the grant of good standing

by scholars to the psychology of religion? It implies, first of all, that religion is a universal phenomenon of the human mind, and not a peculiarity of a few people. Atheism or agnosticism is the abnormal attitude. The statement cannot be successfully disputed that there is no nation or tribe without some religion. Occasionally travelers claim to have found a people without a religion, but upon closer or later investigation it has always become clear that they do possess some form of religion. The observers have failed because certain earmarks of religion were missing and certain kinds of evidence of religion. But men might admit the universal existence of an attitude of awe toward the gods and turn around and consider it either a passing illusion or a merely subjective fact. The former conclusion no one who has studied the matter seriously proposes. There are, however, those who reason that the universal existence of the religious attitude and sentiment in the mind of man does not warrant our going beyond the position that this evidence is subjectively important. But is an objective reference impossible? Is it impossible to infer a reality corresponding to the desires and longings of the human mind as it seeks and searches to learn whether it can find God?

In the Middle Ages, when thinkers deduced far-reaching inferences from their first principles, there arose a form of argument which strove to establish

the being of God as an intellectual necessity by a line of reasoning as cogent as mathematical proof. It was Anselm of Canterbury who proclaimed that the scriptural term for the atheist, "The fool has said in his heart that there is no God," could be logically established. The axiom that "There is a greater than which nothing can be conceived" gave him his start. His next proposition, "But this greatest conceivable will not be the greatest unless it exists," clinched his point in his estimation. Existence would be a necessary attribute of "the greater than which nothing can be conceived." This is the famous ontological proof. On it, according to Kant, rest all other intellectual proofs of the existence of God, and with it they stand or fall. Descartes reasserted the soundness of the ontological argument for God. For the "greater than which nothing can be conceived" he substituted the idea of perfection which is native to our minds. This idea (a) must have an adequate cause, and consequently (b) we can assume a perfect being and that it is He who creates the idea of perfection in our minds. It is no mere contrast arising from our imperfections and drawn from them by us. Descartes further argues that as it is impossible to think of a triangle without three angles, for three angles belong to its very existence, in the same manner it is impossible to conceive of God without implying His existence.

Both of these methods of proof were attacked. Gaunilo replied, in answer to Anselm, that we might think of a wonderful island and yet that might be no sign of its existence. Kant observed that the idea that he had a hundred dollars did not prove their existence. He claimed that the idea of God includes almightiness, omnipresence, etc., but not his existence perforce. His other attributes are educible by analysis out of the idea of God, but existence is an addition and implies a synthetic judgment which is not justified under these circumstances. Conceivability does not necessarily guarantee existence. There is a fundamental weakness running all through this purely logical effort. It rests upon prior teaching about God, and many conceptions from the background are smuggled in which reason of itself could never find. The only philosophic value in these contentions over the right way to infer existence arises from the old argument of Parmenides that Being is Being, and that Non-being cannot be made the basis of knowledge. Now, if God is an implication of being itself and being is a necessary assumption, then God is a necessary assumption.

The better way is to ask whether the psychological belief in a deity implies anything extra-subjective? We agree that there are realities to correspond to our sensations, if we are not believers in form of psychological idealism. Our usual prac-

tice is to accept actualities and existences which satisfy our longings and desires as things really external to us. May we not parallel this situation and assume that there is a reality answering to the seeking and longing of mankind in the form of its religious aspirations? Perhaps it is possible to go further. Many of our longings and desires are awakened by stimuli from, and given content by, the world without. Can we conjecture correctly that in the world of spirit God has endeavored to take hold of us by other stimuli that have awakened our longings for Him? Whatever be the limit that we can legitimately go in our inferences, this much remains a fact, that there is more in the universal belief in a deity than an accident. Is the search after God a fruitless aberration on the part of man or a return of his personality to the infinite personality?

As a companion of the psychology of religion, the history of religion, chronicles the beliefs of all the various faiths of men. For the prehistoric period this history is highly speculative. Spencer and Tyler gave scientific formulation to the speculation that religion began historically with the belief in ghosts and spirits. Man's strange adventures in his dreams and his observation that at death only the breath departed and the rest of the man remained were supposed to lead to the mythology of an inner breath or spirit as the core of the man.

The possession of a similar core or spirit was attributed to all existences, and out of human spiritism also arose the idea of the great spirit. To this hypothesis of animism some added the conjecture of Frazer that religion arose when magic broke down. Magic was held to be the ancestor of religion. But today animism and the theory of magic have stepped aside in favor of a newer speculation which asserts that men began with a belief in spirit in general. This spirit notion was not derived from a prior human spirit concept or from magic. It has been named *Mana,* which is the term in New Zealand for spirit. Among the Alaskan Indians it is called *Manitou.* The primary assumption now used is that man always had a belief in a superhuman permeating spirit. This spirit was not distinctly personal and not definitely impersonal or pantheistic.

We may couple with this hypothesis the fact emphasized by Andrew Lang, namely, that in many low forms of religion there exists a distinctly superior great god among all the other gods. This superior god seems to remain in the background and appears rather to be on the decline than to be deposing his lesser rivals. It is possible that this may help us to understand why gods multiplied in the polytheistic religions. There is no evidence of a trend toward monotheism, as the faiths of various cities and districts are combined, and as nature

is increasingly deified, but on the contrary we find a movement toward multiplication of gods. Pfleiderer conjectured that because sun-gods are found everywhere religion began with sun-worship. But there are too many other gods besides sun-gods to warrant any such sweeping inference. The great gods of the remote past are not always sun-gods. It is true that sun-gods frequently head the pantheon, but this is not sufficient to prove that they were the only early gods from whom the others could be derived. All that we can inferentially assert with reasonable assurance is that religion began with belief in spirit and a great god. This is not monotheism nor polytheism, but its affiliations are closer in tendency to what later became monotheism than to impersonal pantheism.

When we get to more verifiable historical ages we find the lowest forms of the possible original religion of mana and great god to be fetchism and totemism. The former was so named by Des Brosses after the Portugese *feitiçio* (late Latin *factitius*). A *feitiçio* was an amulet. This was the closest Western term available in naming the usage among wild African tribes of taking any object—a stone, a splinter of bone, etc.—and making it the temporary residence of a spirit-god. Totemism, as illustrated in the Alaskan totem-poles, is the name given to the acceptance of a plant or an animal as the symbol and incarnation of the tribal spirit,

Most of the polytheistic faiths were naturalistic. But side by side with this naturalism went sacrifices to the gods, prayers of penitence or adoration, pilgrimages, and purifications. All of these practices carried these early forms of religion far beyond a mere naturalism. While some of the naturalistic features of polytheism confirmed men in many practices of impurity, especially those connected with deification of the fertility of nature, spiritual elements were not lacking that pointed in the opposite direction. We can see in the growth of polytheism two characteristics at work. First, a tendency down grade from the early spiritual idea resulting in an incapacity to foster moral progress, which—as among the Greeks—sometimes destroyed a polytheistic faith altogether. Second, a persistent endeavor by the use of a pantheism of fate as a means to unify and end the confusion raised by conflicting gods, but without success. The spiritual elements became submerged and lost out as time went on. Then there arose a widespread desire for healing and salvation among many nations. This starved condition was shown up most strikingly in the later Roman Empire, when an epidemic of various Oriental cults swept through the populace.

The outstanding world-religions are all religions of salvation, whether they come out of India, Persia, Palestine, or Arabia. Brahmanism and Buddhism both sought deliverance from the world

of sense through absorption into the Absolute. Zoroastrianism dramatized the conflict of good and evil with faith in the final victory of Ormuzd, the good God. No religion stood closer to Judaism than the faith of Zoroaster. With the coming of the faith of Israel, not as reduced to practice by the people, but in the prophetic ideals, there arose a belief in a personal God of righteousness and mercy. Israel always conceived it to be its destiny and mission to set its face against any relapse into polytheistic forms of faith, but only after the exile did the Jews conceive of religion in a pure, monotheistic form. Mohammedanism borrowed from Judaism and Christianity. Its God remains too fatalistic, although he is called merciful. Kismet is a mighty force as well as the one God, and thus there is a sliding backward and a compromise with polytheism.

The real fulfilment of the spiritual promise of early religions is found in Christianity. The trend of all faiths and the hopes of all religions find their consummation in it. Christianity acts as a corrective of former aberrations and throws about men the atmosphere of faith in God as Spirit. Thus does the legitimate hope of religion in the beginning come to fruition. Central to Christianity is the complete and perfect personality. In Jesus all the implications of sacrifice undergo sublimation

from a crude material form and receive the ethical interpretation of obedience. Prayer shifts its ground and becomes vital conversation with the Heavenly Father, and not a form of homage endlessly repeated to please the gods. Might in God is balanced by love. The new law of life is Love. The loftiness of its ethical content is proven by the fact that Christianity has responded to every ethical summons, and fostered the advance through its inner spirit. Any outline of the historical development of religion that does not lose itself in details must note that the path of evolution in religion has been toward a theistic faith and a personal God. But the goal was not attained except in Judaism and in its finality in Christianity. It is in this interpretation of the history of religion that we find its philosophy. There have been a number of efforts to reduce all religions to a common denominator, and to put Christianity not where it belongs in the ranking of religions, but merely as one exhibit among many. With this plan in mind some speculators have written philosophies of religion that consist of abstractions labeled God, immortality, prayer, worship, etc. Not thus, but by a real synthetic blending of the salient material supplied by the history of religion shall we find the straight road to the best philosophy of religion. This synthesis will bring us out at religious per-

sonalism toward which our investigation has tended.[1]

Now that we have shown how the psychology and history of religion allow and sustain the inference of personalism, it is possible to sum up into personalism as an all-inclusive unity all our previous inferences from nature and mind and values. Space is the stage for the activities of creative spiritual personality, and time points beyond itself to infinite duration for the life of spirit. Quantity merges into quality. Causality terminates in order at the one end and purpose at the other. It thus supplies a ground of the universe which supports the best forms of the old cosmological or causal argument for God. The world of observation exhibits power, order, and in some measure purpose. The elements sustain relationships one to another and the rocks write a story with their strata of an orderly universe. But it is in the study of physical life that there is an advance upon the testimony of mere matter, and purpose and end take on sharper and more definite lines. This argument from order, purpose, or end is the old physico-theological or teleological argument for God. When we leave the definitely marked physical and biological realm the next upward stage in which we find ourselves, is

[1] There has been too much abstract speculation in the usual philosophies of religion starting with an effort at the definition of religion from an individual point of view.

mind. It is qualitatively different in its characteristics from mere natural existences and the former evidences of power and order do not obtain. Power and order become the power of volition and the order of intellect. Mind opens the way to personality which proceeds to develop in the individual and in society. In personality we reach the north star of our synthetic philosophy. But it must undergo still further development and find fuller interpretation. In language and history and education we note the life of personality working out in three directions. The next corner turned introduces us to the values of the true, the good, and the beautiful, which all take their rise in personality and point to an ultimate person in whom they find their source and goal. Finally we come in sight of the end of our quest in the philosophic hypothesis of God as the responsible mover of the whole process. After a survey of the psychology of religion as we trace its history we arrive at the conclusion that the personal God is the key to a philosophy able to hold the balance true between the realistic and the idealistic, and by transcending itself to open up the way for the acceptance of the beliefs and experiences of the Christian faith as reasonable. It is a joy to note that, though the Christian belief in God needs no justification but can live in its own right, nevertheless the highest knowledge is not in opposition to faith. Foolish is the modern plea that

we must either throw overboard the theistic implications of the universe or remain agnostic. But equally foolish is the attitude which rejects science and knowledge with rejoicing and endeavors to turn religion into the apotheosis of ignorance. A sound philosophy and a right faith are abundantly able to live together in peace and harmony.

SUMMARY

The psychology of religion attests its universality as a truly human phenomenon. Its history is the story of how it groped its way to fulfilment in the revelation of Christianity. Its philosophy plants its feet firmly in the sympathetic appreciation of all religions, but reaches its culmination in its reflections upon the final religion, namely, Christianity, whose center is the divine human personality of Jesus Christ.

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